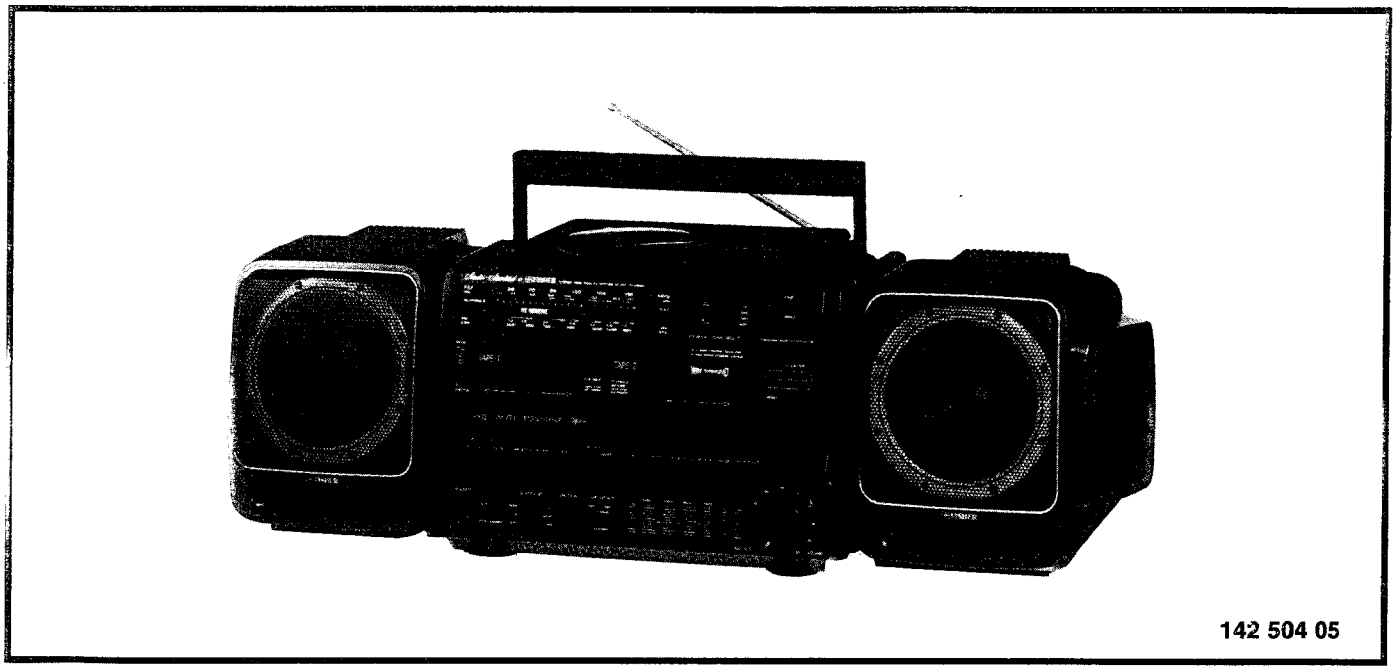
SERVICE MANUAL

FISHER

STEREO HIGH FIDELITY SYSTEM

PH-D800L

(EUROPE)



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SPECIFICATIONS

Power Source
- AC 120/220V, 50/60Hz
- DC 13.5V
- (UM-1, HP2, D Cell, Monozelle, R20)x9

Output Power (Max. Music Power) 5Wx2
Power Consumption 36W

CD

Frequency Response ..... 20Hz ~ 20kHz
S/N Ratio 90dB
Wow and Flutter ..... Unmeasurable
Sampling Frequency 44.1kHz
Error Correction ..... CIRC
Optical Pick-up ..... 3-beam laser

TAPE

Current Consumption (at Vol. Min.)
- Record mode 250mA
- Playback mode 180mA
- Fast Forward mode 230mA
- Rewind mode 230mA

Recording System ..... AC Bias
Erasing System ..... AC Erasing
Tape Speed ..... 1-7/8ips. ±3%
Wow & Flutter ..... 0.15% (WRMS)
Torque
- Playback ..... 30 ~ 60g-cm
- Fast Forward/Rewind ..... more than 60g-cm

Fast Forward/Rewind Time ..... 175sec. (with C-60)
Frequency Response (Overall)
- Fe_2O_3 ..... 63Hz ~ 14,000Hz

Erase Ratio (Overall, with Fe_2O_3) 60dB
Signal to Noise Ratio (with Fe_2O_3) 43dB
Crosstalk (with Fe_2O_3)
- Track to Track 50dB

Channel Separation (with Fe_2O_3) 35dB
Harmonic Distortion (K3/with Fe_2O_3) 3%
Hum & Noise (at Vol. Min.) ..... −60dBs

TUNER

Frequency Range
- MW ..... 530 ~ 1,605kHz
- LW ..... 150 ~ 300kHz
- SW ..... 6 ~ 18MHz
- FM ..... 87.5 ~ 108MHz

– Specifications and design are subject to change without notice. –

REFERENCE No. WM-570231

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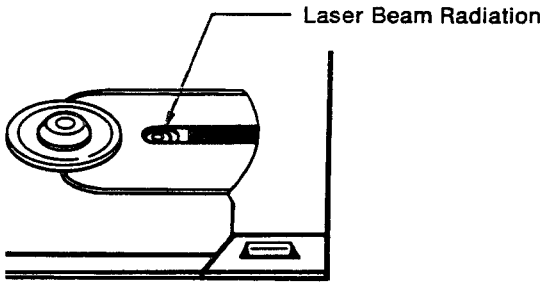
SAFETY CERTIFICATION

CLASS 1 LASER PRODUCT

CAUTION – USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT QUALIFIED SERVICE PERSONNEL.

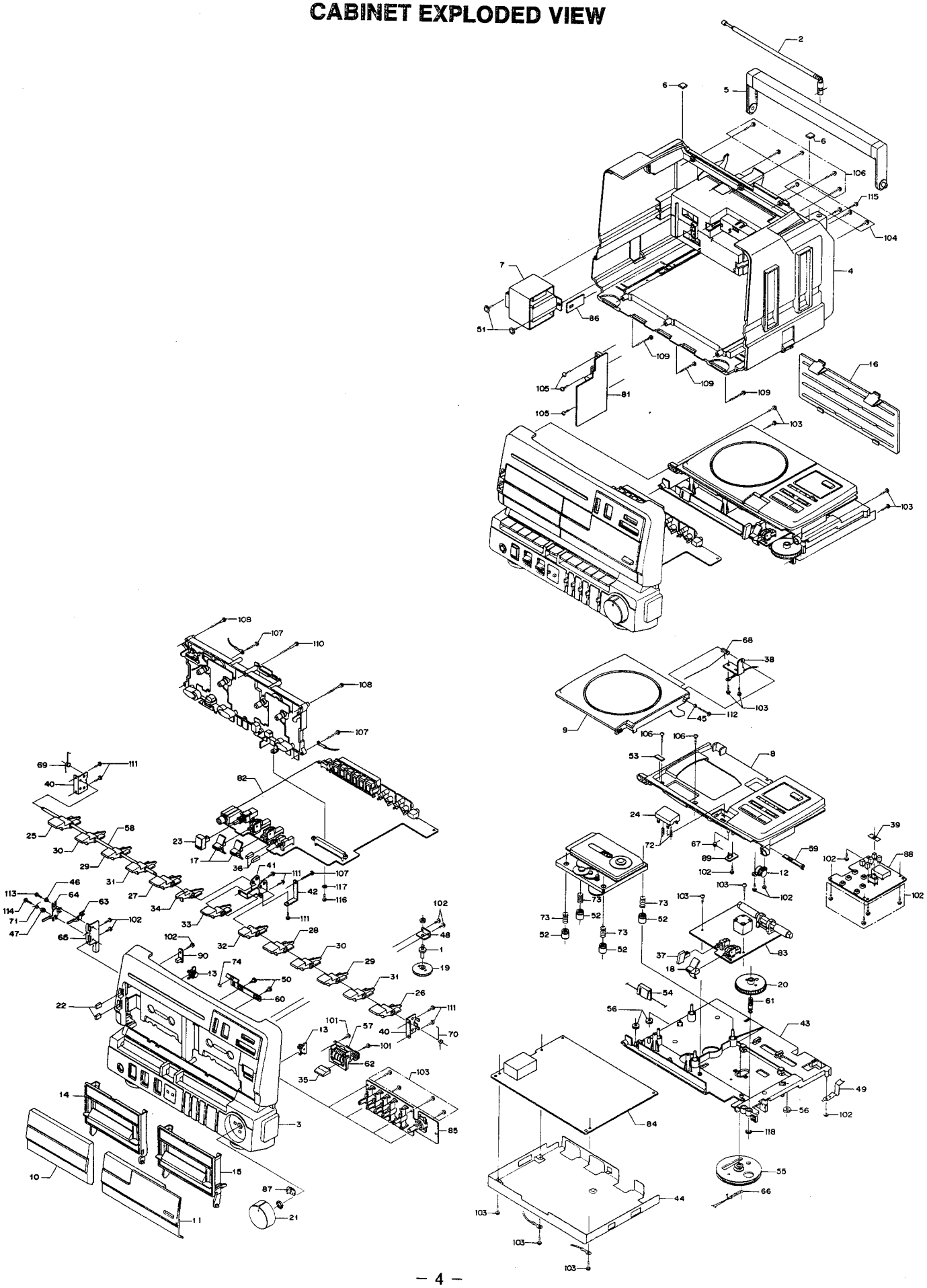
LASER BEAM RADIATION SPOT



CD Compartment

Laser Diode Properties
Material: Ga-Al-As
Wavelength: 755 – 815 nm (25°C)
Laser Output: Continuous Wave max.0.5 mW

CABINET EXPLODED VIEW



CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 195 1837	Pad	1
	620 189 6312	Case Styrofoam Top	1
	620 189 6329	Case Styrofoam Bottom	1
	620 195 8744	Inner Carton	1
	620 152 7506	Serial No. Sheet	2
	620 191 8007	Poly Sheet	1
	620 191 8014	Poly Sheet	2
ACCESSORIES			
	⚠ 620 023 7284	Power Cord	1
	620 197 6328	Instruction Manual	1
	620 057 8783	Bag Fan	1
	620 061 2340	Notes (Laser)	1
	620 061 2401	Notes (Laser)	1
	620 061 2418	Notes (Laser)	1
	620 148 5912	Poly Cover 110 x 220	1
	620 152 2624	Certificate Card	1
	620 153 1787	Label Caution	1
CABINET			
	620 017 7894	Connector 2P Assy	1
	620 125 8424	Wire Band	7
1	620 006 9670	Fine Tuner [FT1]	1
2	620 024 5029	Rod Antenna	1
3	620 195 8706	Assy,Cabinet,Top	1
4	620 195 8737	Assy,Cabinet,Bottom	1
5	620 197 0050	Assy,Handle	1
6	620 195 1813	Cushion,Rubber	2
7	⚠ 620 196 9429	Power Trans,EV2 [T901]	1
8	620 190 4390	Compartment CD Assy	1
9	620 189 1027	Lid CD Complete	1
10	620 189 6114	Lid Panel Left Assy	1
11	620 189 6121	Lid Panel Right Assy	1
12	620 083 1796	Gear Eject Assy	1
13	620 083 1864	Gear Eject Assy	2
14	620 186 3789	Lid Cassette Left	1
15	620 186 3796	Lid Cassette Right	1
16	620 186 3109	Lid Battery	1
17	620 107 5793	Knob (Function,Surround)	2
18	620 193 4625	Knob (Band Select)	1
19	620 108 5785	Knob Fine	1
20	620 108 6201	Knob (Tuning)	1
21	620 190 7599	Knob (Volume)	1
22	620 186 8906	Knob (Direction,Mode)	2
23	620 112 1339	Knob (Power)	1
24	620 186 3215	Knob Eject CD	1
25	620 186 8937	Button Eject 1	1
26	620 186 8944	Button Eject 2	1
27	620 186 8951	Button Play 1	1
28	620 186 8968	Button Play 2	1
29	620 186 8975	BUTTON-A	2
30	620 186 8982	BUTTON-B	2
31	620 186 8999	BUTTON-C	2
32	620 186 9002	Button Record	1
33	620 186 9019	Button Dubbing	1
34	620 186 9026	Button Hi Speed	1
35	620 186 9033	Knob Counter	1
36	620 189 2604	Knob Push B	2
37	620 193 4649	Knob Push FM Mode	1
38	620 188 6849	Bracket CD Lid	1
39	620 191 7970	Veil Switch CD 8-12	1
40	620 188 7624	Bracket Button A	2
41	620 188 7631	Bracket Button B	1
42	620 190 3379	Bracket Button C	1
43	620 189 7197	Chassis CD Radio	1
44	620 189 9580	Shield Case CD	1
45	620 188 6887	Spacer	1
46	620 189 5452	Spacer	1
47	620 190 4970	Spacer	1
48	620 119 8911	Bracket Fine	1
49	620 188 6924	Spring Antenna	1
50	620 122 7390	Screw +M2.3X4.0	2
51	620 122 8366	Screw Poly Wave	2
52	620 124 3376	Cushion Rubber	4
53	620 124 9767	Cushion	1
54	620 186 3277	Pointer	1
55	620 126 8799	Drum	1
56	620 127 1485	Roller Dial A	3
57	620 128 3839	Belt Counter	1
58	620 188 7648	Spindle Button	1
59	620 186 3284	Lever Eject CD	1
60	620 186 8227	Plate Direction	1
61	620 133 4173	Shaft Dial	1
62	620 135 5857	Counter	1
63	620 188 7662	Bracket Lever	1
64	620 188 7693	Bracket Direction	1
65	620 188 7716	Bracket Mode Base	1
66	620 137 2892	Spring Stop	1
67	620 185 3421	Spring Lever Eject CD	1
68	620 188 6986	Spring Lid CD	1
69	620 189 2796	Spring Lid Cassette Left	1
70	620 189 2802	Spring Lid Cassette Right	1
71	620 190 4987	Spring	1
72	620 139 4085	Spring Direction	2
73	620 189 5469	Spring	4
74	620 191 8038	Sheet Direction	1
81	620 197 5796	Power P.C.B. Assy	1
82	620 197 5802	Amplifier P.C.B. Assy	1
83	620 200 7526	Tuner P.C.B. Assy	1
84	620 187 7274	CD P.C.B. Assy	1
85	620 191 2821	Graphic EQ. P.C.B. Assy	1
86	620 191 2845	Battery P.C.B. Assy	1
87	620 191 2852	LED 1 P.C.B. Assy	1
88	620 191 7574	CD Control P.C.B. Assy	1
89	620 191 7581	CD Eject Switch P.C.B. Assy	1
90	620 191 8458	LED 2 P.C.B. Assy	1
101	411 021 3107	SCR S-TPG BIN 2.6X8	2
102	411 023 3303	SCR S-TPG PAN 2.6X8	14
103	411 023 4003	SCR S-TPG PAN 3X10	15
104	411 023 4201	SCR S-TPG PAN 3X10	4
105	411 023 4508	SCR S-TPG PAN 3X12	3
106	411 023 5109	SCR S-TPG PAN 3X14	7
107	411 023 6304	SCR S-TPG PAN 3X20	3
108	411 023 6700	SCR S-TPG PAN 3X25	2
109	411 023 6908	SCR S-TPG PAN 3X25	3
110	411 001 1703	SCR S-TPG PAN 3X30	1
111	411 023 9800	SCR S-TPG PAN 3X8	7
112	411 120 2209	SCR BIN 3X18	1
113	411 039 1508	SCR PAN 2X5	1
114	411 039 4103	SCR PAN 2X8	1
115	411 039 8309	SCR PAN 2.6X10	1
116	411 002 8503	SCR PAN 3X6	1
117	411 085 2405	WASHER Out TW 3	1
118	411 001 0102	RING E 4	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CASSETTE MECHANISM PARTS LIST

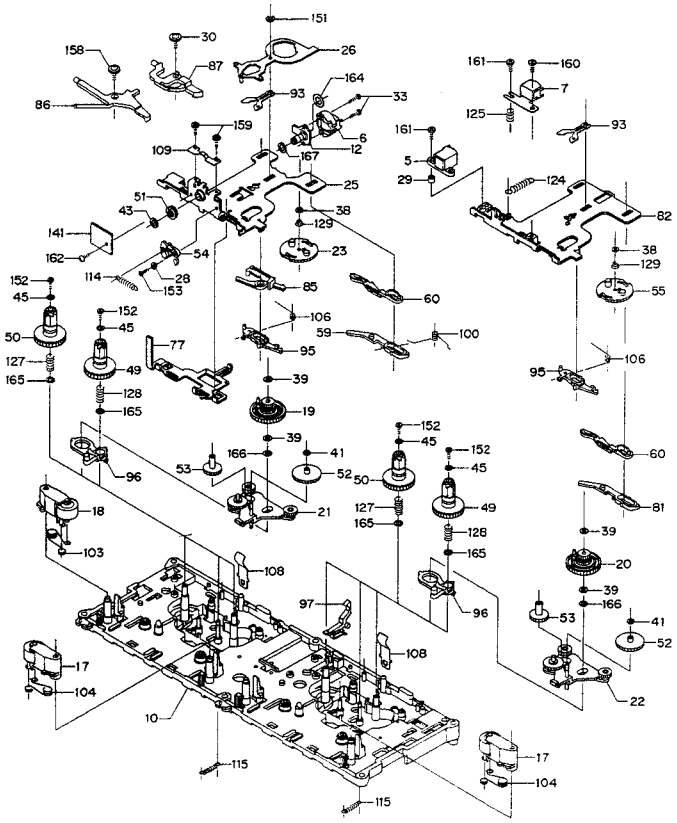
Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	620 191 8656	Connector 3P Assy	1
	620 191 8670	Connector 2P Assy	1
	620 191 8687	Connector 3P Assy	1
	620 191 8694	Lug Wire Assy	1
C357	403 069 0705	CERAMIC 1000P K 50V	1
C358	403 069 0705	CERAMIC 1000P K 50V	1
1	620 016 2630	Leaf Switch [S307]	1
1	620 016 2630	Leaf Switch [S308]	1
1	620 016 2630	Leaf Switch [S309]	1
2	620 016 2654	Leaf Switch [S310]	1
3	620 016 7925	Lever Switch 1-2 [S311]	1
4	620 016 9271	Leaf Switch [S312]	1
5	620 023 5112	Erase Head [HD3]	1
6	620 023 6195	PB Rotary Head [HD1]	1
7	620 023 6409	R/P Head [HD2]	1
8	620 029 3648	Plunger [PL1]	1
9	620 191 8878	Motor Assy [M301]	1
10	620 081 6106	Chassis Assy	1
11	620 185 4534	Bracket Rod Assy	1
12	620 082 2893	Plate Head Assy	1
13	620 082 7348	Flywheel PB Assy	1
14	620 082 7355	Flywheel PB Assy	1
15	620 082 7379	Flywheel R/P Assy	1
16	620 082 7416	Pulley R/P Assy	1
17	620 083 0607	Pinchroller Assy	2
18	620 083 0614	Pinchroller Assy	1
19	620 083 2755	Friction Assy	1
20	620 083 2762	Friction Assy	1
21	620 083 2816	Gear Complete	1
22	620 083 2823	Gear Complete	1
23	620 083 2830	Gear Power REV Assy	1
24	620 192 5920	Pulley Drive Assy	1
25	620 084 2853	Base Slide PB Assy	1
26	620 085 0933	Lever Change PB Assy	1
27	620 119 2100	Bracket Motor	1
28	620 119 7532	Spacer Gear REV	1
29	620 119 7747	Spacer E Head	1
30	620 122 7277	Screw W/Washer +M2.0X6.0	3
31	620 122 8397	Screw Tapping +2.0X6.0	2
32	620 122 9356	Screw Washer +M2.6X1.5	2
33	620 123 0550	Screw +PMS M1.6X6.0	2
34	620 123 0710	Screw +M2.0X6.5	1
35	620 123 9942	Cushion Motor	2
36	620 124 5530	Cushion	2
37	620 125 0954	Washer M2.1X4.0X0.13	1
38	620 125 2071	Washer M1.6X4.0X0.4	2
39	620 125 2163	Washer M2.1X5.0X0.13	4
40	620 125 3078	Washer M2.1X3.5X0.25	4
41	620 125 3382	Washer M1.25X4.0X0.25	2
42	620 125 3818	Washer M2.1X4.0X0.125	2
43	620 125 3849	Washer M4.2X7.0X0.13	1
44	620 125 3894	Washer M1.6X3.2X0.4	1
45	620 125 4235	Washer M3.0X4.4X0.25	4
46	620 125 4938	Washer M2.1X4.5X0.2	7
47	620 125 6666	E Ring TE-4	3
48	620 126 3749	Pulley Drive	2
49	620 126 6382	Fix Reel Take UP	2
50	620 126 6399	Fix Reel Supply	2
51	620 127 8156	Gear Head	1
52	620 127 9283	Gear Forward Play	2
53	620 127 9344	Gear Rewind Relay	2
54	620 127 9351	Gear Reverse	1
55	620 193 2072	Gear Power Aso	1
56	620 128 6755	Belt Drive	1
57	620 128 6786	Belt Drive R/P	1
58	620 128 6823	Belt Wind	2
59	620 130 7238	Plate Auto Shut Off	1
60	620 130 7252	Lever Sensor	2
61	620 130 7436	Rod Stop R/P	1
62	620 130 7450	Rod Dubbing	1
63	620 130 7474	Rod Pause R/P	1
64	620 130 7498	Rod Play R/P	1
65	620 130 7511	Rod Rewind	2
66	620 130 7535	Rod Pause PB	1
67	620 130 7559	Rod Play PB	1
68	620 130 7573	Rod Stop PB	1
69	620 130 7597	Rod F FWD	2
70	620 130 7603	Plate Switch Motor PB	1
71	620 190 6639	Plate Switch Motor R/P	1
72	620 130 7627	Plate Lock PB	1
73	620 130 7634	Plate Lock R/P	1
74	620 130 7641	Plate Lock ASF	1
75	620 130 7658	Plate Amplifier Switch	1
76	620 191 1503	Rod Record	1
77	620 130 7702	Plate Change	1
78	620 130 7856	Rod Speed Switch	1
79	620 130 7863	Plate Lock Lid PB	1
80	620 130 7870	Plate Lock Lid R/P	1
81	620 130 8068	Plate Auto Shut Off	1
82	620 130 8082	Base Slide R/P	1
83	620 131 8616	Lutch Pause	2
84	620 131 9439	Lever Auto Shut Off	2
85	620 131 9453	Lever Change Auto Shut Off	1
86	620 131 9460	Lever Change REV	1
87	620 131 9477	Lever Mode Change	1
88	620 131 9538	Lever Play	1
89	620 131 9545	Lever Cue Reverse	2
90	620 131 9552	Lever Pause R/P	1
91	620 131 9569	Lever Pause PB	1
92	620 131 9576	Lever Stopper Record	1
93	620 131 9583	Lever Change Take UP	2
94	620 131 9606	Lever Dubbing	1
95	620 132 5744	Lever Reverse	2
96	620 132 5751	Lever Arm Gear	2
97	620 136 3852	Interlock Lever	1
98	620 136 4545	Lever R/P Switch	1
99	620 137 8979	Spring Rod	4
100	620 137 9600	Spring Lever Sensor	1
101	620 137 9617	Spring Pause Latch R	1
102	620 137 9624	Spring Pause Latch P	1
103	620 137 9631	Spring Pinch Roller REV	1
104	620 137 9648	Spring Pinch Roller FWD	2
105	620 137 9655	Spring Rod Play	1
106	620 137 9662	Spring Change Auto Shut Off	2
107	620 137 9679	Spring Stopper Record	1
108	620 138 4963	Spring Cassette	2
109	620 138 6769	Spring Azimuth	1
110	620 139 1701	Spring PL Lock Lid PB	1
111	620 139 1718	Spring PL Lock Lid R/P	1
112	620 139 1725	Spring PL Motor Switch R/P	1
113	620 139 1732	Spring PL Motor Switch PB	1
114	620 139 1749	Spring Gear REV	1
115	620 139 1763	Spring Arm Gear	2
116	620 139 1770	Spring Rod Play	1
117	620 139 1794	Spring Base Slide PB	1
118	620 139 1800	Spring Plate Lock PB	1
119	620 139 1817	Spring Plate Lock R/P	1
120	620 139 1824	Spring Lever Record	1
121	620 139 1831	Spring Speed Switch	1
122	620 139 1848	Spring Plate ASF	1
123	620 139 1855	Spring Dubbing	1
124	620 190 8176	Spring Base Slide R/P	1
125	620 139 3835	Spring Head	1
126	620 139 4467	Spring Flywheel	4
127	620 139 4559	Spring REV Reel	2
128	620 139 4566	Spring FWD Reel	2
129	620 139 4696	Spring	2
130	620 122 9264	Screw	1
131	620 122 9271	Screw	2
132	620 188 7679	Lever R/P	1
133	620 188 7686	Bracket R/P Slide	1
134	620 188 7709	Bracket R/P Base	1
141	620 011 9467	PCB Head	1
142	620 191 2838	Control P.C.B. Assy	1
151	411 015 7906	RING E 1.5	1
152	412 025 9201	SPECIAL SCREW	4
153	411 017 4804	SCR FLT PCS 1.7X4	1
154	411 021 0205	SCR S-TPG BIN 2X12	1
155	411 021 0809	SCR S-TPG BIN 2X6	3
156	411 021 3107	SCR S-TPG BIN 2.6X8	3
157	411 022 7807	SCR S-TPG PAN 2X6	1
158	412 029 5308	SPECIAL SCREW	1
159	412 022 9808	SPECIAL SCREW	2
160	411 030 6403	SCR BIN 2X5	1
161	411 030 7509	SCR BIN 2X7	2

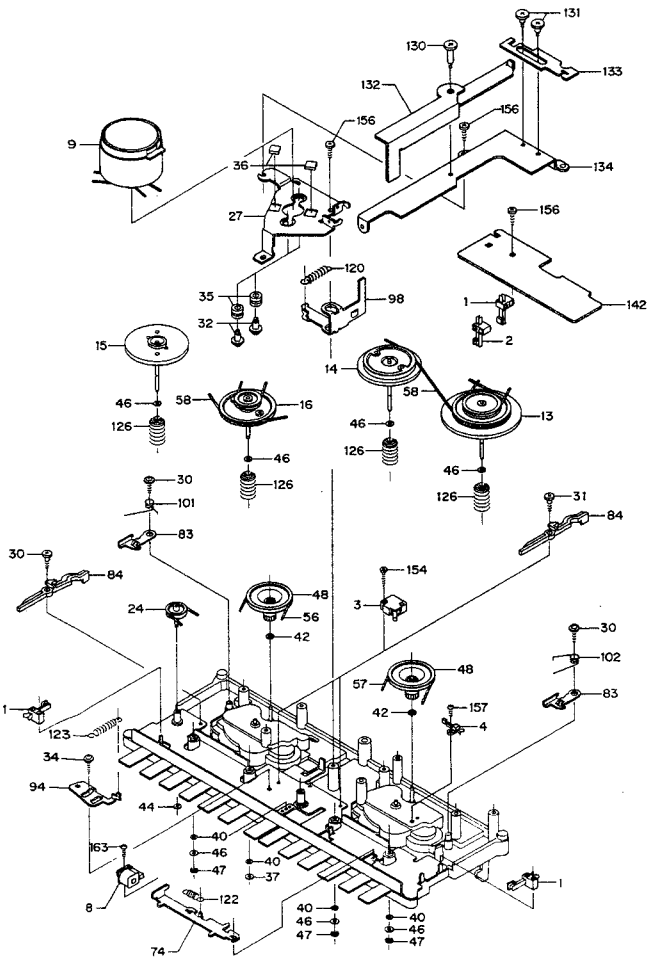
CASSETTE MECHANISM PARTS LIST & EXPLODED VIEW

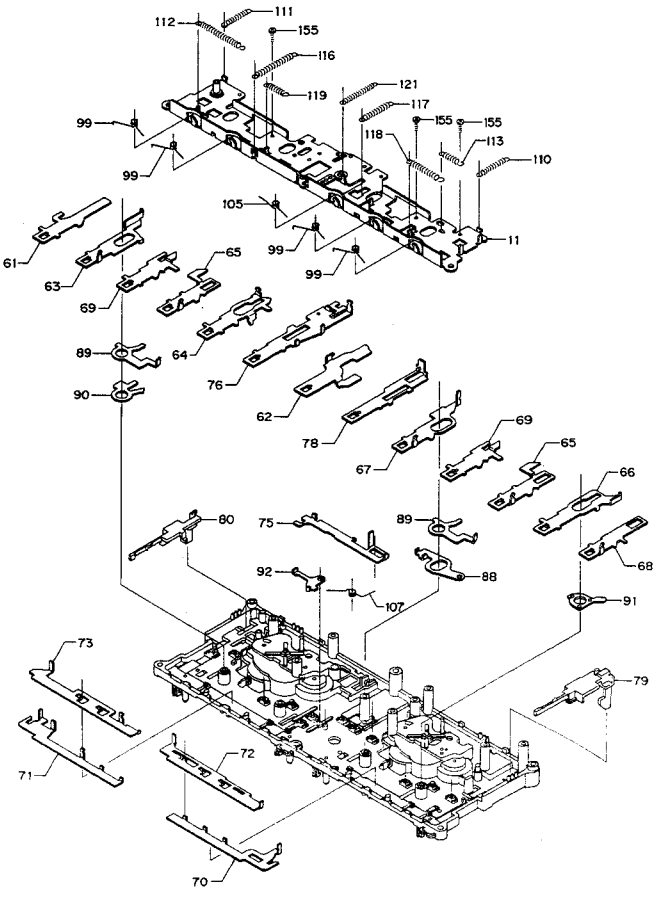
Ref. No.	Part No.	Description	Q'ty
162	411 039 0105	SCR PAN 2X3	1
163	411 039 3304	SCR PAN 2X7	1
164	412 022 4506	SPECIAL WASHER	1
165	412 023 2303	SPECIAL WASHER	4
166	412 023 2402	SPECIAL WASHER	2
167	412 026 0207	SPECIAL WASHER	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.







CD MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
CD MECHANISM			
	620 125 4150	Washer	3
	620 192 7351	Sheet	1
	620 191 9264	Terminal1P Assy	1
	620 191 8151	Connector 4P Assy [CN703]	1
	620 191 8168	Connector 2P Assy [CN704]	1
C810	403 069 1207	CERAMIC 1000P K 50V	1
1	620 015 8633	Leaf Switch [S801]	1
2	620 030 4290	Spindle Motor [M1]	1
3	620 190 1702	Motor [M2]	1
4	620 183 4819	Chassis Assy	1
5	620 082 7478	Turntable Assy	1
6	620 183 7377	Cover CD	1
7	620 125 1487	Washer	1
8	620 127 7814	Gear Motor	1
9	620 127 9542	Gear Pinion	1
10	620 127 9559	Gear Load B	1
11	620 127 9566	Gear Load S	1
12	620 127 9573	Gear Rack	1
13	620 133 4159	Shaft Pick-up	2
14	620 137 9891	Spring Shaft	4
15	620 062 6170	Pick-up Assy 88	1
21	411 108 0104	SCR FLT PCS 2X5	2
22	411 019 8909	SCR PAN PCS 1.7X2	4
23	411 107 6404	SCR S-TPG PAN 2.6X6	3

NOTES:

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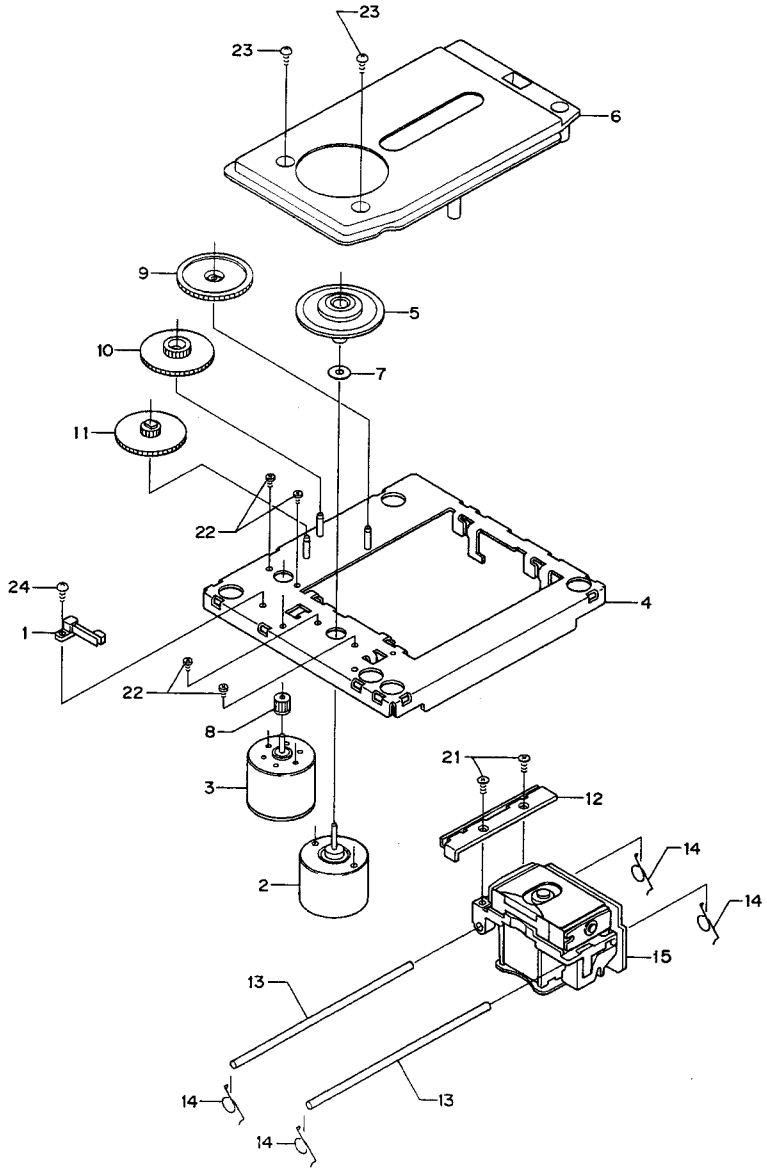
CD MECHANISM EXPLODED VIEW



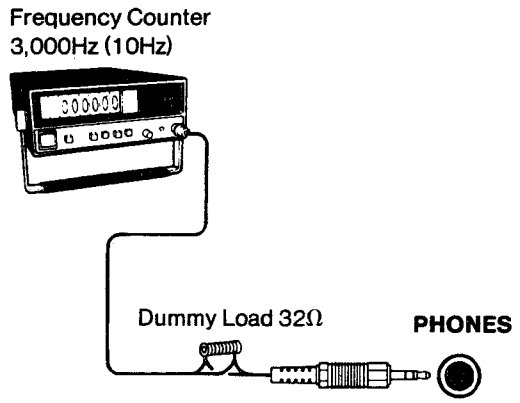
ELECTRICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (32Ω)
- Dualtrace Oscilloscope
- DC Constant-voltage Regulator
- Test Tapes
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
- Alignment Tool

TAPE SPEED ADJUSTMENT

1. Connect a frequency counter to the left or right channel output of the headphone jack as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. Detach the Cabinet Bottom and adjust the tape speed by slowly turning the P301 in the CONTROL P.C.B. until the frequency counter reads 3,000Hz (±10Hz).

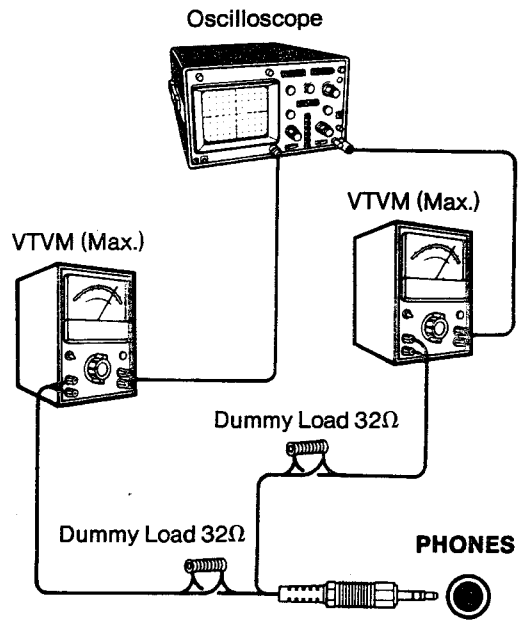
HEAD AZIMUTH ADJUSTMENT

Detach the cassette compartment lid from the unit and connect a dualtrace oscilloscope and a VTVM to both channel outputs of the headphone jack as illustrated.

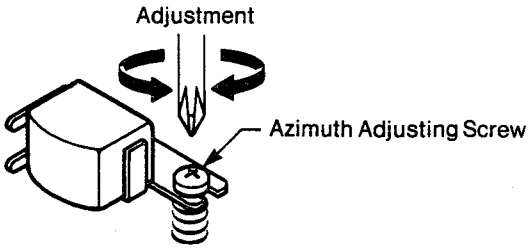
Then, set the dualtrace oscilloscope as follows:

‡ MODE ..... CHOP (chopped)
‡ SOURCE ..... INT (internal), CH1 or CH2
‡ SWEEP MODE ..... AUTO (automatic)

NOTE:
Adjust the field on the oscilloscope with the VOLT. ADJ. and TIME ADJ.



1. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment.
2. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.



3. After the adjustment, secure the adjusting screw with paint or glue.

TUNER ADJUSTMENT

EQUIPMENT REQUIRED

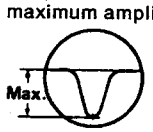
- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna for AM
- Frequency Counter
- Ceramic Capacitor (10pF)
- Electrolytic Capacitor (1μF)
- Carbon Resistor (330kΩ)
- Dummy Antenna (75Ω,unbalanced type) for FM
- Dummy Antenna (30Ω/10pF) for SW.
- VTVM
- Oscilloscope
- Dummy Load (32Ω)
- Alignment Tool
- Before performing the adjustment, set the Function Switch to "RADIO", FM Mode Switch to "MONO".

NOTE:

Use an alignment tool with plastic grip for all adjustments.

MW ALIGNMENT

Standard Test Frequency 400Hz Modulation 30% at AM

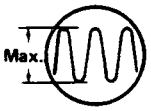
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect loop antenna to output terminal of gene-scope. Place loop antenna by bar antenna.	Connect input terminal of gene-scope to TP6.	460kHz	Low End	T2	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones jack.	510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude.
3				1,670kHz	High End	TC3	
4	Adjustment of Tracking			600kHz	600kHz	BA1-1	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

LW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones jack.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude.
2				300kHz	High End	TC5	
3	Adjustment of Tracking			170kHz	170kHz	BA1-2	
4				280kHz	280kHz	TC4 (PVC)	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

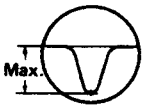
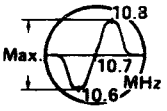
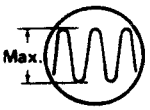
TUNER ADJUSTMENT (Continued)

SW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30Ω/10pF.).	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones jack.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC2	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

FM ALIGNMENT

Standard Test Frequency 400Hz and deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope to TP3 through capacitor (10pF).	Connect input terminal of gene-scope to detector output terminals (TP4).	10.7MHz	Low End	Turn T3(blue core) fully counter-clockwise and then, adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T3 (blue core)	Obtain S curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect FM signal generator to antenna terminals(TP1 and TP2)through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones jack.	87.35MHz		L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz	High End	TC2(PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

38kHz (V.C.O.) ADJUSTMENT

1. Before the adjustment, set the switches as follow:
   ‡ Function Select Switch ..... RADIO ON
   ‡ Band Select Switch ..... FM
   ‡ Mode Switch ..... STEREO
2. Connect the Pin 6 (TP5) of IC3 to the ground through a resistor (330kΩ).Then connect the frequency counter across the resistor.
3. Adjust the potentiometer (PT1) until the oscillation frequency of IC3 becomes 38kHz (±50Hz).

SAFETY INTERLOCK

The Digital Compact Disc Player reads the disc signal by detecting the laser beam. It must be avoided for the human body to directly receive the beam. Especially human eyes are badly affected by the beam. Therefore, the unit is equipped with an interlock to prevent the unnecessary laser output.

The laser outputs are controlled by the injection or cutoff of the constant voltage source to the laser diode with Pin 35 of IC 704 (TMP47C400AN). When Pin 35 is in "L"(Low) level, the laser emits the beam. When Pin 35 is in "H" (High) level, the laser does not emit the beam.

Pin 35 is set in "L" level when the unit is loaded with the disc and it reads the index signals or when the unit reads the index signals and the following tow conditions are met. the laser emits the beam.

1. When the Lid Disc is closed.
2. The pickup is located at the area of the minimum internal circumference.

After the above conditions are met and the index signals have been read, the laser emits the beam when the following two condition are met.

3. When the PLAY button is pressed.
4. When the PLAY indicator is ON.

CD ADJUSTMENT PROCEDURES

BEFORE CHECKING OR ADJUSTING CD PLAYER

1. Procedures for all adjustments for the CD player from start to finish are described below.
2. The pick-up does not have to be adjusted if everything has been checked and no problems were found.

FREE RUN FREQUENCY ADJUSTMENT

1. Connect the frequency counter to test terminal **TP2** (PCK) test pin and to **GND.** (Use a 10:1 probe.)
2. Apply Power Switch to the set and press the STOP button.
3. Adjust the OSC coil L701 using a plastic screwdriver until the frequency counter indicator reads 4.3218MHz.

SETTING OF INITIAL POSITION OF VOLUME

1. Set the variable resistors to the initial positions listed below:

P701 (TRACKING OFFSET) ..... Mechanical Center
P702 (E/F BALANCE) ..... Mechanical Center
P703 (FOCUS GAIN) ..... Mechanical Center
P704 (TRACKING GAIN) ..... Mechanical Center
P705 (KICK GAIN) ..... Mechanical Center

FOCUS OFFSET ADJUSTMENT

1. Apply Power Switch to the set and press the STOP button.
2. Connect a DC Voltmeter to the test terminal **TP3** (F focus coil) pin and short the focus test terminal **TP4** (F-OF) pin to **GND.**
3. In this condition check that the DC Voltmeter indicator is in the range −0.47V ±0.2V.

TRACKING OFFSET ADJUSTMENT

1. Apply Power Switch to the set and press the STOP button.
2. Connect a DC Voltmeter to the test terminal **TP5** (T tracking coil) pin and short the focus test terminal **TP6** (T-OF) pin to **GND.**
3. In this condition check that the DC Voltmeter indicator is in the range 0V±50mV, and adjust P701 if it is not.

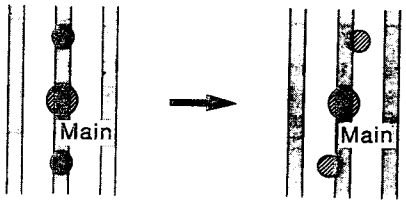
NOTE:
Perform this adjustment once again after adjusting the TRACKING GAIN signals.

DIFFRACTION GRID ADJUSTMENT

This set uses a three-beam laser pick-up system. Adjusting the diffraction grid means adjustment so that beams E and F are in position with respect to the main beam as shown in the diagram below on the bit streams.

CD ADJUSTMENT PROCEDURES (Continued)

The adjustment procedure involves arranging the three beams in a straight line along the same bit stream and then adjusting them to specified positions.



The adjustment steps are detailed below. These are very fine adjustments so great care should be exercised in this.

DIFFRACTION GRID ADJUSTMENT

1. Apply Power Switch to the set and press the STOP button.
2. Short tester terminal **TP11** microprocessor TEST pin to the **GND** pin, and then short test terminal **TP12** (TOFF) pin to **GND** to turn the tracking servo OFF.
3. In this state, connect the **E**-beam output of test terminal **TP9** to Channel 1 of the oscilloscope and **F**-beam output of test terminal **TP10** to Channel 2, and now observe the lissajous waveform on the oscilloscope.
4. Place the test disc on the turntable, and press the PLAY button.
5. When the disc begins to rotate a waveform will appear on the oscilloscope . In this condition adjust that the waveform is a straight line with a phase difference of 180°. (See Fig. 1)

Fig. 1

6. Once the state indicated by the waveform in Fig. 1 is obtained, hold the STOP button down temporarily, and remove the connection between tester terminal **TP11** microprocessor TEST pin and the **GND** pin as well as that between test terminal **TP12** (T-OFF) pin and **GND.**
7. Next, press the PLAY button, and set the oscilloscope in the DUAL MODE so that both E and F outputs can be seen. Set the DISPLAY TIME to 5μs. Now, adjustment is complete if the waveforms shown below in Fig. 2 (Channel 1 trigger) are obtained.

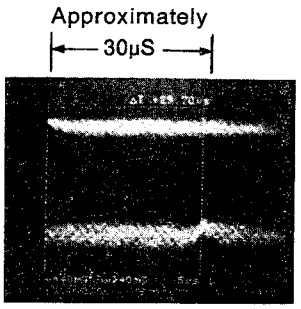


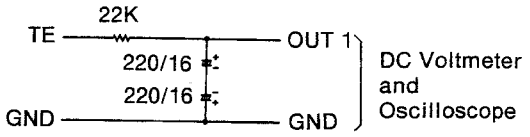
Fig. 2

NOTE:
Diffraction grating adjustment is performed for a single pick-up, so if the following checks are performed adjustment is unnecessary.

a. PLAY the fourth item on the test disc (Modern Wave Ⅱ CA35-1045, Toshiba-EMI), turn the tracking servo OFF, and check that the waveform is linear with a phase difference of 180°.
b. Next, apply tracking servo, and if the waveforms shown in Fig. 2 are obtained then adjustment is unnecessary.

E/F BALANCE ADJUSTMENT

1. Place the test disc (Modern Wave Ⅱ) on the turntable, and play the fourth item on the disc. Short the test terminal **TP11** microprocessor TEST pin to the **GND** pin, and test terminal **TP12** (T-OFF) pin to **GND** to turn tracking servo OFF.
2. Connect a DC Voltmeter and an oscilloscope via the low-pass filter like that shown in the illustration below to the test terminal **TP13** (TE tracking error) pin.



Measurement circuit

3. Adjust P702 so that the DC Voltmeter reading is minimum (oscilloscope waveform is symmetric to + and − about the zero level).

CD ADJUSTMENT PROCEDURES (Continued)

CONFIRMING JITTER

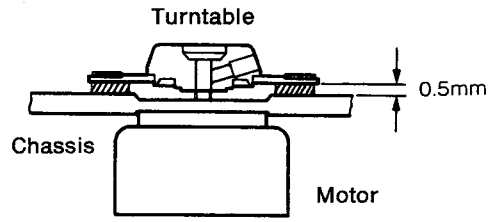
If no jitter counter is available, this check does not have to be have to be performed.

1. PLAY the fourth item on the test disc (Modern Wave Ⅱ).
2. Connect an oscilloscope to the test terminal **TP14** pin, and check that its level is in the range 1.8Vp-p ~ 3.3Vp-p.
3. Connect a jitter counter to test terminal **TP15** pin, and check that the 3T jitter value is less than 25ns. (Window width: 600ns ~ 850ns, Set Level: 2.5V)
4. Now PLAY the tenth item on the test disc and check that the jitter value is less than 25ns again.

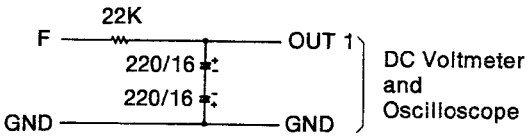
ADJUSTMENT OF TURNTABLE HEIGHT

This adjustment must be performed when the Spindle Motor is replaced.

1. The turntable should be mounted so that its upper surface is 0.5mm±0.1mm above the surface of the chassis.



2. Place the test disc (Modern Wave Ⅱ) on the turntable.
3. Connect a DC Voltmeter and an oscilloscope via the low-pass filter shown below to test terminal **TP3** (F focus coil) pin.



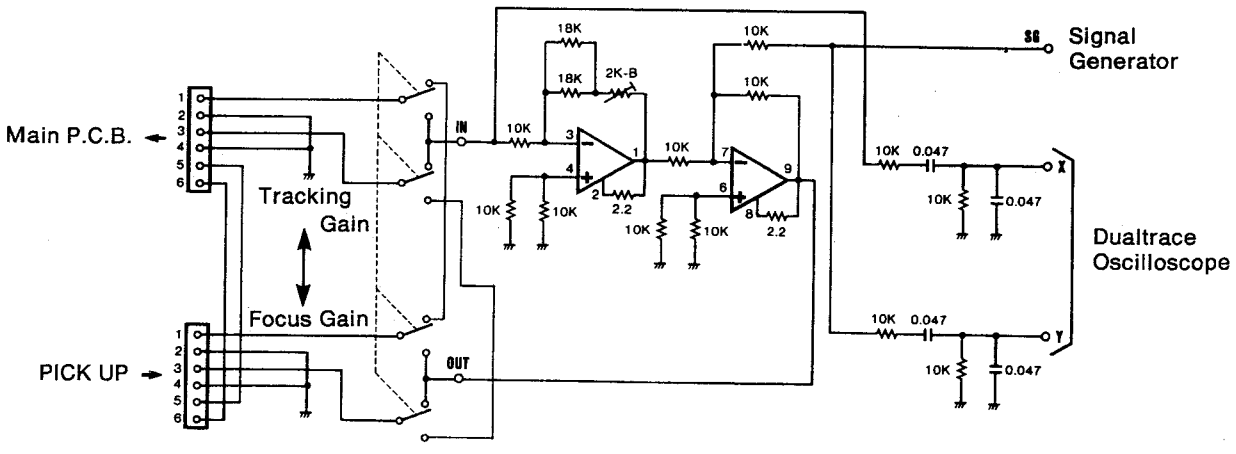
Measurement circuit

4. Apply Power Switch to the set and PLAY the first item on the disc.
5. If the DC Voltmeter reading is not in the ranges 0V±0.2V for inner tracks and 0V±0.2V for outer tracks, then the turntable height must be readjusted. Raise the turntable higher if the DC Voltmeter indicator is on the plus (+) side, and lower it if it is on the minus (−) side.

ADJUSTMENT OF FOCUS/TRACKING GAIN

The measurement circuit diagrammed below must be used in order to adjust focus gain and tracking gain correctly.

1. Use IC TA7256P or an equivalent product.
2. Short the interval between **IN** and **SG**, apply 1kHz, 1Vp-p from **SG**, and adjust variable resistor 2kΩ-B so that the **OUT** output is minimum.



Measurement circuit

CD ADJUSTMENT PROCEDURES (Continued)

FOCUS GAIN ADJUSTMENT

1. Apply P703 to the center position, and place the test disc (Modern Wave Ⅱ) on the table load.
2. Connect the measurement tool described in the last section to focus coil pin.
3. Apply Power Switch to the set and PLAY the first item on the test disc. Now apply a signal of 1kHz and 0.5Vp-p from the signal generator to the measurement circuit.
4. Set the oscilloscope to X-Y operation, and while observing the lissajous waveform adjust P703 to the point where the phase difference is 90° as shown in Fig. 3 below.

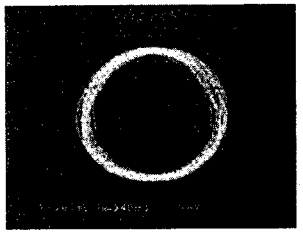


Fig. 3

TRACKING GAIN ADJUSTMENT

1. Apply P704 to the center position, and place the test disc (Modern Wave Ⅱ) on the table load.
2. Connect the measurement tool described in the last section to the tracking coil pin.
3. Apply Power Switch to the set and PLAY the first item on the test disc. Now apply a signal of 1.5kHz and 0.5Vp-p from the signal generator to the measurement circuit.
4. Set the oscilloscope to X-Y operation, and while observing the lissajous waveform adjust P704 to the point where the phase difference is 90° as shown in Fig. 3 above.

NOTE:
If these two adjustments are performed, the TRACKING OFFSET must also be adjusted.

KICK GAIN ADJUSTMENT

1. Place the test disc (Modern Wave Ⅱ) on the table load.
2. Set the oscilloscope to NORMAL TRIG., set the EXT. TRIG. pin to external trigger, and input the trigger from test terminal **TP16** (TRH) pin to the oscilloscope.
3. Next connect test terminal **TP14** (HF) pin to Channel 1 of the oscilloscope, and connect test terminal **TP12** (TE) pin to Channel 2.
4. Apply Power Switch to the set and PLAY the first item on the test disc, and the press the PAUSE button. Now observe the waveforms for **HF** and **TE** with triggers applied from test terminal (CN11) **TRH** pin. At this point, adjust P705 so that a kick pulse waveform of about 1.5 tracks as shown in Fig. 4 below is obtained.

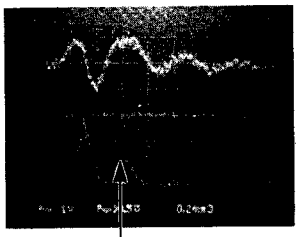


Fig. 4

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
POWER P.C.B. ASSY			
81	620 197 5796	Power P.C.B. Assy	1
	620 125 8424	Wire Band	3
	620 153 4504	Label Fuse	1
CN901	620 191 8182	Connector 2P Assy	1
FC1	620 017 2721	Fuse Clip	2
F901	⚠ 423 006 1701	FUSE 250V 2A	1
J901	⚠ 620 019 2705	AC DC Power Socket	1
S901	620 015 4017	Voltage Selector	1
D901	407 005 2105	DIODE DS135D-KB3	1
D902	407 005 2105	DIODE DS135D-KB3	1
D903	407 005 2105	DIODE DS135D-KB3	1
D904	407 005 2105	DIODE DS135D-KB3	1
C901	403 074 2701	CERAMIC 0.047U Z 50V	1
C902	403 074 2701	CERAMIC 0.047U Z 50V	1
C903	403 074 2701	CERAMIC 0.047U Z 50V	1
C904	403 074 2701	CERAMIC 0.047U Z 50V	1
C905	403 072 2703	CERAMIC 0.022U Z 50V	1
AMPLIFIER P.C.B. ASSY			
82	620 197 5802	Amplifier P.C.B. Assy	1
	620 120 7026	Radiator IC	1
	411 023 4508	SCR S-TPG PAN 3X12	2
PCB4	620 191 2524	PCB Amplifier	1
CN301	620 021 6180	Connector 3P	1
CN302	620 021 6180	Connector 3P	1
CN303	620 021 6869	Connector 2P	1
CN304	620 021 6869	Connector 2P	1
CN305	620 021 6197	Connector 4P	1
J301	620 017 2806	Pin Jack 2P	1
J302	620 190 2242	Jack 7P Black	1
J303	620 022 4987	6P Push Terminal	1
J304	620 017 2806	Pin Jack 2P	1
J305	620 017 2493	Jack 3P	1
L101	620 191 8373	Coil 4.7MH Shield	1
L102	620 191 8373	Coil 4.7MH Shield	1
L103	620 191 8366	Coil 33MH Shield	1
L104	620 191 8366	Coil 33MH Shield	1
L301	620 197 9022	Inductor 100UH K	1
PN1	620 021 6821	Pin 1P	1
PN2	620 021 6821	Pin 1P	1
S301	620 016 4122	Slide Switch (BEAT)	1
S302	620 015 3713	Lever Switch 4P3T	1
S303	620 015 3713	Lever Switch 4P3T	1
S304	620 016 8823	Push Switch 1 Key (POWER)	1
S305	620 016 7970	Slide Switch 9-2	1
S307	620 016 8335	Push Switch 1 Key	1
S308	620 015 3065	Push Switch 1 Key	1
T301	620 028 8545	OSC Trans	1
W305	620 191 8649	Connector 3P Assy	1
W306	620 191 8663	Connector 4P Assy	1
IC301	409 121 8702	IC LA3246	1
IC303	409 017 9400	IC LA4505	1
IC304	409 115 6806	IC BA3312N	1
Q101	406 001 7206	TR 2SC1740-LNT-93R	1
Q102	406 001 7206	TR 2SC1740-LNT-93R	1
Q103	406 001 7206	TR 2SC1740-LNT-93R	1
Q104	406 001 7206	TR 2SC1740-LNT-93R	1
Q105	406 001 7206	TR 2SC1740-LNT-93R	1
Q106	406 001 7206	TR 2SC1740-LNT-93R	1
Q107	406 001 7206	TR 2SC1740-LNT-93R	1
Q108	406 001 7206	TR 2SC1740-LNT-93R	1
Q109	406 001 7206	TR 2SC1740-LNT-93R	1
Q110	406 001 7206	TR 2SC1740-LNT-93R	1
Q301	406 001 7206	TR 2SC1740-LNT-93R	1
Q302	405 021 0204	TR 2SD1012-F-SPA-AC	1
Q303	405 019 2708	TR 2SC536-F-NP-AA	1
Q304	405 019 2708	TR 2SC536-F-NP-AA	1
Q305	405 019 2708	TR 2SC536-F-NP-AA	1
Q306	405 019 2708	TR 2SC536-F-NP-AA	1
Q307	405 024 4308	TR 2SD612-F	1
Q308	405 018 0200	TR 2SC3331-U	1
Q312	405 023 5306	TR 2SD400-F-MP	1
Q313	406 001 7206	TR 2SC1740-LNT-93R	1
Q314	406 001 7206	TR 2SC1740-LNT-93R	1
Q315	405 019 2708	TR 2SC536-F-NP-AA	1
Q316	405 019 2708	TR 2SC536-F-NP-AA	1
Q317	405 019 2708	TR 2SC536-F-NP-AA	1
Q318	405 004 4502	TR 2SA608-F-NP-AA	1
Q319	405 019 2708	TR 2SC536-F-NP-AA	1
D301	407 008 0405	DIODE GMB01-BT	1
D302	407 005 3805	DIODE DS442-BT	1
or	407 008 0405	DIODE GMB01-BT	1
D303	407 008 0405	DIODE GMB01-BT	1
D304	407 008 0405	DIODE GMB01-BT	1
D305	407 008 0405	DIODE GMB01-BT	1
D306	407 008 0405	DIODE GMB01-BT	1
D307	407 008 0405	DIODE GMB01-BT	1
D308	407 063 9603	ZENER DIODE MTZJ9.1A	1
D309	407 008 0405	DIODE GMB01-BT	1
D310	407 008 0405	DIODE GMB01-BT	1
D311	407 008 0405	DIODE GMB01-BT	1
D312	407 008 0405	DIODE GMB01-BT	1
D314	407 008 0405	DIODE GMB01-BT	1
D315	407 008 0405	DIODE GMB01-BT	1
D316	407 008 0405	DIODE GMB01-BT	1
D320	407 099 7208	ZENER DIODE MTZJ16A-T-77	1
or	407 099 7208	ZENER DIODE MTZJ16A	1
D340	407 008 0405	DIODE GMB01-BT	1
D341	407 008 0405	DIODE GMB01-BT	1
D342	407 005 2105	DIODE DS135D-KB3	1
C101	403 073 6502	CERAMIC 470P K 50V	1
C102	403 073 6502	CERAMIC 470P K 50V	1
C103	403 073 6502	CERAMIC 470P K 50V	1
C104	403 073 6502	CERAMIC 470P K 50V	1
C105	403 068 9105	CERAMIC 100P K 50V	1
C106	403 068 9105	CERAMIC 100P K 50V	1
C107	403 041 3304	ELECT 47U M 10V	1
C108	403 041 3304	ELECT 47U M 10V	1
C109	403 057 0908	POLYESTER 0.01U K 50V	1
C110	403 057 0908	POLYESTER 0.01U K 50V	1
C111	403 042 0302	ELECT 10U M 16V	1
C112	403 042 0302	ELECT 10U M 16V	1
C113	403 075 0508	CERAMIC 6800P K 50V	1
C114	403 075 0508	CERAMIC 6800P K 50V	1
C115	403 049 1609	ELECT 1U M 50V	1
C116	403 049 1609	ELECT 1U M 50V	1
C117	403 068 9105	CERAMIC 100P K 50V	1
C118	403 068 9105	CERAMIC 100P K 50V	1
C119	403 047 9607	ELECT 0.1U M 50V	1
C120	403 047 9607	ELECT 0.1U M 50V	1
C147	403 049 1609	ELECT 1U M 50V	1
C148	403 049 1609	ELECT 1U M 50V	1
C149	403 069 0705	CERAMIC 1000P K 50V	1
C150	403 069 0705	CERAMIC 1000P K 50V	1
C151	403 039 7901	ELECT 100U M 10V	1
C152	403 039 7901	ELECT 100U M 10V	1
C153	403 025 7304	CERAMIC 4.7P K 50V	1
C154	403 025 7304	CERAMIC 4.7P K 50V	1
C155	403 069 8404	CERAMIC 0.01U Z 50V	1
C156	403 069 8404	CERAMIC 0.01U Z 50V	1
C157	403 039 7901	ELECT 100U M 10V	1
C158	403 039 7901	ELECT 100U M 10V	1
C159	403 043 3104	ELECT 2200U M 16V	1
C160	403 043 3104	ELECT 2200U M 16V	1
C161	403 058 5803	POLYESTER 0.15U K 50V	1
C162	403 058 5803	POLYESTER 0.15U K 50V	1
C163	403 047 9607	ELECT 0.1U M 50V	1
C164	403 047 9607	ELECT 0.1U M 50V	1
C165	403 148 5805	NP-ELECT 2.2U M 50V	1
C166	403 148 5805	NP-ELECT 2.2U M 50V	1
C167	403 073 6502	CERAMIC 470P K 50V	1
C168	403 073 6502	CERAMIC 470P K 50V	1
C169	403 041 3304	ELECT 47U M 10V	1
C170	403 041 3304	ELECT 47U M 10V	1
C171	403 003 4806	CERAMIC 0.027U K 25V	1
C172	403 003 4806	CERAMIC 0.027U K 25V	1
C173	403 002 8508	CERAMIC 0.015U K 25V	1
C174	403 002 8508	CERAMIC 0.015U K 25V	1
C175	403 042 0302	ELECT 10U M 16V	1
C176	403 042 0302	ELECT 10U M 16V	1
C177	403 070 4709	CERAMIC 1200P K 50V	1
C178	403 070 4709	CERAMIC 1200P K 50V	1
C179	403 070 3900	CERAMIC 120P K 50V	1
C180	403 070 3900	CERAMIC 120P K 50V	1
C181	403 072 9603	CERAMIC 3300P K 50V	1
C182	403 072 9603	CERAMIC 3300P K 50V	1
C183	403 071 6207	CERAMIC 220P K 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C184	403 071 6207	CERAMIC	220P	K	50V	1
C185	403 047 1502	ELECT	4.7U	M	25V	1
C186	403 047 1502	ELECT	4.7U	M	25V	1
C187	403 002 1905	CERAMIC	0.01U	K	25V	1
C188	403 002 1905	CERAMIC	0.01U	K	25V	1
C189	403 071 7501	CERAMIC	2200P	K	50V	1
C190	403 071 7501	CERAMIC	2200P	K	50V	1
C301	403 047 1502	ELECT	4.7U	M	25V	1
C302	403 047 1502	ELECT	4.7U	M	25V	1
C303	403 047 1502	ELECT	4.7U	M	25V	1
C304	403 039 7901	ELECT	100U	M	10V	1
C305	403 039 7901	ELECT	100U	M	10V	1
C306	403 040 4807	ELECT	220U	M	10V	1
C308	403 039 7901	ELECT	100U	M	10V	1
C309	403 042 3600	ELECT	100U	M	16V	1
C310	403 097 6403	ELECT	3300U	M	25V	1
C311	403 049 1609	ELECT	1U	M	50V	1
C312	403 039 7901	ELECT	100U	M	10V	1
C313	403 040 2704	ELECT	22U	M	10V	1
C314	403 040 4807	ELECT	220U	M	10V	1
C315	403 072 2703	CERAMIC	0.022U	Z	50V	1
C316	403 040 4807	ELECT	220U	M	10V	1
C317	403 040 2704	ELECT	22U	M	10V	1
C318	403 039 7901	ELECT	100U	M	10V	1
C319	403 041 3304	ELECT	47U	M	10V	1
C320	403 042 0302	ELECT	10U	M	16V	1
C321	403 041 5704	ELECT	470U	M	10V	1
C322	403 071 7501	CERAMIC	2200P	K	50V	1
C323	403 047 9607	ELECT	0.1U	M	50V	1
C324	403 068 9105	CERAMIC	100P	K	50V	1
C325	403 049 1609	ELECT	1U	M	50V	1
C326	403 049 1609	ELECT	1U	M	50V	1
C327	403 081 2602	POLYPRO	2200P	J	100V	1
C329	403 002 1905	CERAMIC	0.01U	K	25V	1
C330	403 072 9603	CERAMIC	3300P	K	50V	1
C331	403 069 0705	CERAMIC	1000P	K	50V	1
C332	403 002 1905	CERAMIC	0.01U	K	25V	1
C333	403 049 1609	ELECT	1U	M	50V	1
C334	403 047 1502	ELECT	4.7U	M	25V	1
C335	403 072 2703	CERAMIC	0.022U	Z	50V	1
C336	403 045 9104	ELECT	220U	M	25V	1
C337	403 040 4807	ELECT	220U	M	10V	1
C338	403 049 1609	ELECT	1U	M	50V	1
C339	403 049 1609	ELECT	1U	M	50V	1
C340	403 041 3304	ELECT	47U	M	10V	1
C341	403 041 3304	ELECT	47U	M	10V	1
C342	403 072 2703	CERAMIC	0.022U	Z	50V	1
C343	403 072 2703	CERAMIC	0.022U	Z	50V	1
C344	403 042 0302	ELECT	10U	M	16V	1
C345	403 042 0302	ELECT	10U	M	16V	1
C346	403 073 7004	CERAMIC	470P	K	50V	1
C347	403 073 7004	CERAMIC	470P	K	50V	1
C348	403 073 6502	CERAMIC	470P	K	50V	1
C349	403 073 6502	CERAMIC	470P	K	50V	1
C351	403 073 6502	CERAMIC	470P	K	50V	1
C352	403 073 6502	CERAMIC	470P	K	50V	1
C353	403 073 6502	CERAMIC	470P	K	50V	1
C354	403 073 6502	CERAMIC	470P	K	50V	1
C355	403 073 6502	CERAMIC	470P	K	50V	1
C356	403 073 6502	CERAMIC	470P	K	50V	1
R101	401 029 4503	CARBON	180	JA	1/8W	1
R102	401 029 4503	CARBON	180	JA	1/8W	1
R103	401 028 3705	CARBON	10K	JA	1/8W	1
R104	401 028 3705	CARBON	10K	JA	1/8W	1
R105	401 028 3705	CARBON	10K	JA	1/8W	1
R106	401 028 3705	CARBON	10K	JA	1/8W	1
R107	401 028 7604	CARBON	12K	JA	1/8W	1
R108	401 028 7604	CARBON	12K	JA	1/8W	1
R109	401 031 2405	CARBON	3.9K	JA	1/8W	1
R110	401 031 2405	CARBON	3.9K	JA	1/8W	1
R111	401 030 0204	CARBON	2.2K	JA	1/8W	1
R112	401 030 0204	CARBON	2.2K	JA	1/8W	1
R113	401 032 1100	CARBON	56K	JA	1/8W	1
R114	401 032 1100	CARBON	56K	JA	1/8W	1
R115	401 032 8703	CARBON	8.2K	JA	1/8W	1
R116	401 032 8703	CARBON	8.2K	JA	1/8W	1
R117	401 031 6601	CARBON	4.7K	JA	1/8W	1
R118	401 031 6601	CARBON	4.7K	JA	1/8W	1
R119	401 028 7109	CARBON	1.2K	JA	1/8W	1

Ref. No.	Part No.	Description				Q'ty
R120	401 028 7109	CARBON	1.2K	JA	1/8W	1
R121	401 032 4002	CARBON	680	JA	1/8W	1
R122	401 032 4002	CARBON	680	JA	1/8W	1
R123	401 012 5708	CARBON	1K	JA	1/4W	1
R124	401 028 3200	CARBON	1K	JA	1/8W	1
R125	401 031 6601	CARBON	4.7K	JA	1/8W	1
R126	401 031 6601	CARBON	4.7K	JA	1/8W	1
R127	401 030 0204	CARBON	2.2K	JA	1/8W	1
R128	401 030 0204	CARBON	2.2K	JA	1/8W	1
R129	401 031 0203	CARBON	330K	JA	1/8W	1
R130	401 031 0203	CARBON	330K	JA	1/8W	1
R131	401 028 3200	CARBON	1K	JA	1/8W	1
R132	401 028 3200	CARBON	1K	JA	1/8W	1
R133	401 028 2104	CARBON	10	JA	1/8W	1
R134	401 028 2104	CARBON	10	JA	1/8W	1
R139	401 032 7805	CARBON	82	JA	1/8W	1
R140	401 032 7805	CARBON	82	JA	1/8W	1
R141	401 030 0709	CARBON	22K	JA	1/8W	1
R142	401 030 0709	CARBON	22K	JA	1/8W	1
R143	401 029 1502	CARBON	15K	JA	1/8W	1
R144	401 029 1502	CARBON	15K	JA	1/8W	1
R145	401 016 3809	CARBON	2.2K	JA	1/4W	1
R146	401 016 3809	CARBON	2.2K	JA	1/4W	1
R149	401 028 3705	CARBON	10K	JA	1/8W	1
R150	401 028 3705	CARBON	10K	JA	1/8W	1
R151	401 022 3107	CARBON	6.8K	JA	1/4W	1
R152	401 022 3107	CARBON	6.8K	JA	1/4W	1
R153	401 014 2903	CARBON	150	JA	1/4W	1
R154	401 014 2903	CARBON	150	JA	1/4W	1
R155	401 013 5301	CARBON	1.2K	JA	1/4W	1
R156	401 013 5301	CARBON	1.2K	JA	1/4W	1
R157	401 032 9205	CARBON	82K	JA	1/8W	1
R158	401 032 9205	CARBON	82K	JA	1/8W	1
R159	401 028 3705	CARBON	10K	JA	1/8W	1
R160	401 028 3705	CARBON	10K	JA	1/8W	1
R161	401 031 6106	CARBON	470	JA	1/8W	1
R162	401 031 6106	CARBON	470	JA	1/8W	1
R163	401 029 4503	CARBON	180	JA	1/8W	1
R164	401 029 4503	CARBON	180	JA	1/8W	1
R165	401 029 3902	CARBON	18	JA	1/8W	1
R166	401 029 3902	CARBON	18	JA	1/8W	1
R167	401 028 3705	CARBON	10K	JA	1/8W	1
R168	401 028 3705	CARBON	10K	JA	1/8W	1
R169	401 028 3705	CARBON	10K	JA	1/8W	1
R170	401 028 3705	CARBON	10K	JA	1/8W	1
R171	401 028 7604	CARBON	12K	JA	1/8W	1
R172	401 028 7604	CARBON	12K	JA	1/8W	1
R173	401 032 1100	CARBON	56K	JA	1/8W	1
R174	401 032 1100	CARBON	56K	JA	1/8W	1
R175	401 031 2405	CARBON	3.9K	JA	1/8W	1
R176	401 031 2405	CARBON	3.9K	JA	1/8W	1
R177	401 030 0709	CARBON	22K	JA	1/8W	1
R178	401 030 0709	CARBON	22K	JA	1/8W	1
R179	401 028 3705	CARBON	10K	JA	1/8W	1
R180	401 028 3705	CARBON	10K	JA	1/8W	1
R301	401 028 4207	CARBON	100K	JA	1/8W	1
R302	401 031 7202	CARBON	47K	JA	1/8W	1
R303	401 028 4207	CARBON	100K	JA	1/8W	1
R304	401 032 1100	CARBON	56K	JA	1/8W	1
R305	401 028 4207	CARBON	100K	JA	1/8W	1
R306	401 028 4207	CARBON	100K	JA	1/8W	1
R307	401 016 2604	CARBON	220	JA	1/4W	1
R308	401 012 4503	CARBON	100	JA	1/4W	1
R309	401 012 4503	CARBON	100	JA	1/4W	1
R310	401 018 3807	CARBON	3.3K	JA	1/4W	1
R311	401 030 1300	CARBON	220K	JA	1/8W	1
R312	401 030 8705	CARBON	330	JA	1/8W	1
R313	401 028 4207	CARBON	100K	JA	1/8W	1
R314	401 030 0709	CARBON	22K	JA	1/8W	1
R315	401 032 0103	CARBON	560	JA	1/8W	1
R316	401 012 5708	CARBON	1K	JA	1/4W	1
R317	401 023 1706	CARBON	820	JA	1/4W	1
R318	401 015 1608	CARBON	180	JA	1/4W	1
R319	401 012 5708	CARBON	1K	JA	1/4W	1
R320	401 030 9207	CARBON	3.3K	JA	1/8W	1
R321	401 018 4903	CARBON	33K	JA	1/4W	1
R322	401 018 4903	CARBON	33K	JA	1/4W	1
R323	401 030 9702	CARBON	33K	JA	1/8W	1
R324	401 028 3705	CARBON	10K	JA	1/8W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R325	401 029 9706	CARBON 220 JA 1/8W	1
R326	401 031 0609	CARBON 3.3M JA 1/8W	1
R327	401 028 3705	CARBON 10K JA 1/8W	1
R328	401 031 6601	CARBON 4.7K JA 1/8W	1
R329	401 031 3204	CARBON 390K JA 1/8W	1
R330	401 030 0204	CARBON 2.2K JA 1/8W	1
R331	401 029 9706	CARBON 220 JA 1/8W	1
R332	401 028 3705	CARBON 10K JA 1/8W	1
R333	401 030 8705	CARBON 330 JA 1/8W	1
R334	401 030 0204	CARBON 2.2K JA 1/8W	1
R335	401 028 3705	CARBON 10K JA 1/8W	1
R336	401 028 3705	CARBON 10K JA 1/8W	1
R337	401 023 0709	CARBON 82 JA 1/4W	1
R338	401 030 0204	CARBON 2.2K JA 1/8W	1
R339	401 029 7306	CARBON 2.7 JA 1/8W	1
R340	401 029 9706	CARBON 220 JA 1/8W	1
R341	401 030 0204	CARBON 2.2K JA 1/8W	1
R342	401 031 0203	CARBON 330K JA 1/8W	1
R343	401 028 2104	CARBON 10 JA 1/8W	1
R344	401 031 5505	CARBON 47 JA 1/8W	1
R345	401 030 0709	CARBON 22K JA 1/8W	1
R346	401 028 3200	CARBON 1K JA 1/8W	1
R347	401 031 2801	CARBON 39K JA 1/8W	1
R348	401 031 2801	CARBON 39K JA 1/8W	1
R349	401 030 4202	CARBON 2.7K JA 1/8W	1
R350	401 029 5005	CARBON 1.8K JA 1/8W	1
R351	401 028 4207	CARBON 100K JA 1/8W	1
R352	401 032 0103	CARBON 560 JA 1/8W	1
R363	401 030 9207	CARBON 3.3K JA 1/8W	1
R364	401 030 9702	CARBON 33K JA 1/8W	1
R368	401 018 9809	CARBON 39 JA 1/4W	1
TUNER P.C.B. ASSY			
83	620 200 7526	Tuner P.C.B. Assy	1
	620 193 6407	Shield Case PVC	1
	620 125 4150	Washer	3
BA1	620 196 4080	Bar Antenna	1
BPF1	620 026 7397	Band Pass Filter	1
CF1	620 026 7083	Ceramic Filter	1
CF2	620 026 7083	Ceramic Filter	1
CF3	620 026 6680	Mechanical Filter	1
CN1	620 021 6869	Connector 2P	1
CN2	620 017 5340	Connector 4P Assy	1
L1	620 029 0852	RF Coil	1
L2	620 198 0363	Trans,OSC	1
L3	620 026 9414	Choke Coil 6.8UH	1
L4	620 029 4454	Choke Coil Ring	1
PCB1	620 193 6254	PCB Tuner	1
PT1	620 005 6724	Potentiometer 502	1
PVC1	620 007 0041	Variable Condenser	1
Q1	405 027 5708	TR 2SK427-S	1
or	405 027 5807	TR 2SK427-T	1
SW1	620 016 6355	Lever Switch 10P4T	1
SW2	620 016 4313	Push Switch 2P2T	1
TC1	620 006 9717	Trimmer Condenser	1
TC2	620 006 9717	Trimmer Condenser	1
TC3	620 006 9717	Trimmer Condenser	1
TC4	620 006 9748	Trimmer Condenser	1
TC5	620 006 9748	Trimmer Condenser	1
TP1	620 021 6807	Pin 1P	1
TP2	620 021 6807	Pin 1P	1
T1	620 027 6429	IFT FM	1
T2	620 027 5835	IFT AM	1
T3	620 027 5750	IFT FM	1
T4	620 027 9536	Antenna Coil	1
T5	620 028 6312	OSC Trans Switch	1
T6	620 028 6237	OSC Trans MW	1
T7	620 028 6190	OSC Trans	1
IC1	409 068 2900	IC BA4410	1
IC2	409 002 6803	IC BA4236L	1
IC3	409 049 1205	IC TA7343P	1
D1	407 007 9904	DIODE GMA01-BT	1
C1	403 009 1809	CERAMIC 10P J 50V	1
C2	403 017 0207	CERAMIC 20P J 50V	1
C3	403 069 1207	CERAMIC 1000P K 50V	1
C4	403 001 2309	CERAMIC 0.01U N 16V	1
C5	403 001 2309	CERAMIC 0.01U N 16V	1
C6	403 012 6006	CERAMIC 15P J 50V	1
C7	403 017 9705	CERAMIC 22P J 50V	1

Ref. No.	Part No.	Description	Q'ty
C8	403 027 8002	CERAMIC 5.6P K 50V	1
C9	403 001 2309	CERAMIC 0.01U N 16V	1
C10	403 001 5805	CERAMIC 0.022U N 16V	1
C11	403 001 2309	CERAMIC 0.01U N 16V	1
C12	403 042 0302	ELECT 10U M 16V	1
C13	403 049 1609	ELECT 1U M 50V	1
C14	403 001 2309	CERAMIC 0.01U N 16V	1
C15	403 001 5805	CERAMIC 0.022U N 16V	1
C16	403 001 2309	CERAMIC 0.01U N 16V	1
C17	403 001 2309	CERAMIC 0.01U N 16V	1
C18	403 004 0609	CERAMIC 0.047U K 25V	1
C19	403 001 2309	CERAMIC 0.01U N 16V	1
C20	403 001 2309	CERAMIC 0.01U N 16V	1
C21	403 014 2600	CERAMIC 18P J 50V	1
C22	403 081 5702	POLYPRO 3100P J 100V	1
C23	403 009 1809	CERAMIC 10P J 50V	1
C24	403 030 2103	CERAMIC 6.8P K 50V	1
C25	403 081 7904	POLYPRO 350P J 100V	1
C26	403 014 2600	CERAMIC 18P J 50V	1
C27	403 001 2309	CERAMIC 0.01U N 16V	1
C28	403 028 3402	CERAMIC 56P J 50V	1
C29	403 081 0509	POLYPRO 180P J 100V	1
C30	403 070 7809	CERAMIC 150P K 50V	1
C31	403 001 2309	CERAMIC 0.01U N 16V	1
C32	403 041 3304	ELECT 47U M 10V	1
C33	403 049 1609	ELECT 1U M 50V	1
C34	403 050 7706	ELECT 3.3U M 50V	1
C35	403 080 5505	POLYPRO 1000P J 100V	1
C36	403 050 7706	ELECT 3.3U M 50V	1
C37	403 041 5704	ELECT 470U M 10V	1
C38	403 001 8509	CERAMIC 5600P N 16V	1
C39	403 001 8509	CERAMIC 5600P N 16V	1
C40	403 047 9607	ELECT 0.1U M 50V	1
C41	403 001 2309	CERAMIC 0.01U N 16V	1
C42	403 047 9607	ELECT 0.1U M 50V	1
C43	403 001 2309	CERAMIC 0.01U N 16V	1
C44	403 021 7308	CERAMIC 3.3P K 50V	1
R1	401 028 2609	CARBON 100 JA 1/8W	1
R2	401 031 0203	CARBON 330K JA 1/8W	1
R3	401 028 3705	CARBON 10K JA 1/8W	1
R4	401 031 0203	CARBON 330K JA 1/8W	1
R5	401 031 2405	CARBON 3.9K JA 1/8W	1
R6	401 029 3902	CARBON 18 JA 1/8W	1
R7	401 029 0406	CARBON 150 JA 1/8W	1
R8	401 030 8200	CARBON 33 JA 1/8W	1
R9	401 028 2609	CARBON 100 JA 1/8W	1
R10	401 028 2609	CARBON 100 JA 1/8W	1
R11	401 028 3200	CARBON 1K JA 1/8W	1
R12	401 028 3705	CARBON 10K JA 1/8W	1
R13	401 032 4002	CARBON 680 JA 1/8W	1
R14	401 030 1300	CARBON 220K JA 1/8W	1
R15	401 029 1502	CARBON 15K JA 1/8W	1
R16	401 030 9207	CARBON 3.3K JA 1/8W	1
R17	401 030 9207	CARBON 3.3K JA 1/8W	1
R18	401 029 1502	CARBON 15K JA 1/8W	1
R19	401 030 4707	CARBON 27K JA 1/8W	1
R20	401 030 4707	CARBON 27K JA 1/8W	1
R21	401 030 0204	CARBON 2.2K JA 1/8W	1
R22	401 030 2109	CARBON 24 JA 1/8W	1
CD P.C.B. ASSY			
84	620 187 7274	CD P.C.B. Assy	1
	620 080 4660	DC-DC Converter Assy	1
CN701	620 021 8337	Plug 6P	1
CN702	620 021 8610	Plug 6P	1
CN703	620 021 8597	Plug 4P	1
CN704	620 021 8757	Plug 2P	1
CN705	620 021 9419	Plug 3P	1
CN706	620 021 6944	Connector 2P	1
CN707	620 021 6227	Connector 10P	1
CN708	620 021 8153	Plug 7P	1
CN709	620 021 7705	Plug 4P	1
CN710	620 021 6937	Connector 3P	1
F701	620 017 0697	Protector, ICP-N15	1
L701	620 028 8699	OSC Coil	1
or	620 028 8774	OSC Coil	1
L702	620 026 8752	RF Low Pass Filter	1
or	620 026 8745	RF Filter	1
or	620 026 8769	RF Filter	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
L703	620 187 7052	AF Filter	1
or	620 026 4594	AF Filter	1
L704	620 187 7052	AF Filter	1
or	620 026 4594	AF Filter	1
L705	620 029 5758	Coil 470	1
L706	620 029 5758	Coil 470	1
P701	620 006 2480	Potentiometer 20KB	1
P702	620 187 4808	Potentiometer 100KB	1
P703	620 006 2466	Potentiometer 10KB	1
P704	620 006 2480	Potentiometer 20KB	1
P705	620 187 4808	Potentiometer 100KB	1
RB701	620 004 5544	Resistor 5X10K	1
RB702	620 004 5209	Resistor 4X10K J	1
X701	620 182 6999	Crystal 8.6436MHz	1
or	620 007 3172	Crystal	1
or	620 007 3387	Crystal 8.6436MHz	1
IC701	409 124 6507	IC LA9200NM	1
IC702	409 120 4002	IC LC7860N	1
IC703	409 123 7109	IC LC3517BS-15	1
IC704	410 049 7807	IC TMP47C400AN-6265Z	1
IC705	409 067 0709	IC LC7880	1
IC706	409 018 5500	IC LA6510	1
IC707	409 018 5500	IC LA6510	1
IC708	409 070 4909	IC NJM2068S-D	1
Q701	405 019 2708	TR 2SC536-F-NP-AA	1
Q702	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q703	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q704	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q705	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q706	405 008 7103	TR 2SB808-G-SPA-AC	1
Q707	405 019 2708	TR 2SC536-F-NP-AA	1
Q708	405 019 2708	TR 2SC536-F-NP-AA	1
Q709	405 019 2708	TR 2SC536-F-NP-AA	1
Q710	405 019 2708	TR 2SC536-F-NP-AA	1
Q711	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q712	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q713	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q714	405 021 0600	TR 2SD1012-G-SPA-AC	1
Q715	405 004 4502	TR 2SA608-F-NP	1
Q716	405 004 4502	TR 2SA608-F-NP	1
Q717	405 004 4502	TR 2SA608-F-NP	1
Q718	405 018 2600	TR 2SC3400	1
D701	407 000 3503	VARACTOR DI SVC211SP	1
D702	407 063 9405	ZENER DIODE MTZJ8.2A	1
D703	407 063 8903	ZENER DIODE MTZJ5.6C	1
D704	407 063 8903	ZENER DIODE MTZJ5.6C	1
D705	407 063 8903	ZENER DIODE MTZJ5.6C	1
D708	407 007 9904	DIODE GMA01-BT	1
D709	407 007 9904	DIODE GMA01-BT	1
D710	407 007 9904	DIODE GMA01-BT	1
D711	407 007 9904	DIODE GMA01-BT	1
D712	407 007 9904	DIODE GMA01-BT	1
D713	407 007 9904	DIODE GMA01-BT	1
D714	407 007 9904	DIODE GMA01-BT	1
D715	407 007 9904	DIODE GMA01-BT	1
D716	407 007 9904	DIODE GMA01-BT	1
D717	407 007 9904	DIODE GMA01-BT	1
D718	407 007 9904	DIODE GMA01-BT	1
D719	407 007 9904	DIODE GMA01-BT	1
D720	407 007 9904	DIODE GMA01-BT	1
D721	407 007 9904	DIODE GMA01-BT	1
D722	407 007 9904	DIODE GMA01-BT	1
D723	407 007 9904	DIODE GMA01-BT	1
D724	407 007 9904	DIODE GMA01-BT	1
D725	407 007 9904	DIODE GMA01-BT	1
D726	407 007 9904	DIODE GMA01-BT	1
C701	403 001 2309	CERAMIC 0.01U N 16V	1
C702	403 042 0302	ELECT 10U M 16V	1
C703	403 042 0302	ELECT 10U M 16V	1
C704	403 042 0302	ELECT 10U M 16V	1
C705	403 022 7703	CERAMIC 33P J 50V	1
C706	403 022 7703	CERAMIC 33P J 50V	1
C707	403 048 7602	ELECT 0.47U M 50V	1
C708	403 071 2001	CERAMIC 180P K 50V	1
C709	403 030 6309	CERAMIC 68P J 50V	1
C710	403 086 1907	NP-ELECT 0.47U M 50V	1
C711	403 030 6309	CERAMIC 68P J 50V	1
C712	403 071 6207	CERAMIC 220P K 50V	1
C713	403 004 0500	CERAMIC 0.047U K 25V	1

Ref. No.	Part No.	Description	Q'ty
C714	403 087 2507	STYRENE 1000P J 50V	1
C715	403 057 0106	POLYESTER 0.01U J 50V	1
C716	403 002 3602	CERAMIC 0.1U K 25V	1
C717	403 002 1905	CERAMIC 0.01U K 25V	1
C718	403 074 9205	CERAMIC 680P K 50V	1
C719	403 002 3602	CERAMIC 0.1U K 25V	1
C720	403 003 6701	CERAMIC 0.033U K 25V	1
C721	403 002 1905	CERAMIC 0.01U K 25V	1
C722	403 069 1207	CERAMIC 1000P K 50V	1
C723	403 067 6204	MT-COMPO 0.15U J 50V	1
C724	403 067 6709	MT-COMPO 0.22U J 50V	1
C725	403 067 7300	MT-COMPO 0.33U J 50V	1
C726	403 039 2906	ELECT 47U M 6.3V	1
C727	403 042 0302	ELECT 10U M 16V	1
C728	403 042 0302	ELECT 10U M 16V	1
C729	403 071 6207	CERAMIC 220P K 50V	1
C730	403 004 0500	CERAMIC 0.047U K 25V	1
C731	403 025 7304	CERAMIC 4.7P K 50V	1
C732	403 073 7004	CERAMIC 470P K 50V	1
C733	403 004 0500	CERAMIC 0.047U K 25V	1
C734	403 073 7004	CERAMIC 470P K 50V	1
C735	403 002 3602	CERAMIC 0.1U K 25V	1
C736	403 004 4607	CERAMIC 0.068U K 25V	1
C737	403 042 0302	ELECT 10U M 16V	1
C738	403 003 3700	CERAMIC 0.022U Z 25V	1
C739	403 042 0302	ELECT 10U M 16V	1
C740	403 003 3700	CERAMIC 0.022U Z 25V	1
C741	403 004 8308	CERAMIC 0.012U K 50V	1
C742	403 004 8308	CERAMIC 0.012U K 50V	1
C743	403 001 5300	CERAMIC 2200P N 16V	1
C744	403 004 0500	CERAMIC 0.047U K 25V	1
C745	403 001 5300	CERAMIC 2200P N 16V	1
C746	403 086 2706	NP-ELECT 1U M 50V	1
C747	403 086 2706	NP-ELECT 1U M 50V	1
C748	403 038 2402	ELECT 100U M 6.3V	1
C749	403 042 0302	ELECT 10U M 16V	1
C750	403 004 0500	CERAMIC 0.047U K 25V	1
C751	403 002 1905	CERAMIC 0.01U K 25V	1
C752	403 047 1502	ELECT 4.7U M 25V	1
C753	404 028 9302	CERAMIC 0.1U Z 50V	1
C754	403 042 0302	ELECT 10U M 16V	1
C755	403 038 2402	ELECT 100U M 6.3V	1
C756	403 047 1502	ELECT 4.7U M 25V	1
C757	403 019 9703	CERAMIC 27P J 50V	1
C758	403 019 9703	CERAMIC 27P J 50V	1
C759	403 069 1207	CERAMIC 1000P K 50V	1
C760	403 002 2902	CERAMIC 0.01U M 25V	1
C761	403 021 7308	CERAMIC 3.3P K 50V	1
C762	403 021 7308	CERAMIC 3.3P K 50V	1
C763	403 069 1207	CERAMIC 1000P K 50V	1
C764	403 069 1207	CERAMIC 1000P K 50V	1
C765	403 022 7703	CERAMIC 33P J 50V	1
C766	403 022 7703	CERAMIC 33P J 50V	1
C767	403 063 7809	POLYESTER 0.082U K 50V	1
C768	403 063 7809	POLYESTER 0.082U K 50V	1
C769	403 047 1502	ELECT 4.7U M 25V	1
C770	403 047 1502	ELECT 4.7U M 25V	1
C771	403 063 5904	POLYESTER 8200P K 50V	1
C772	403 063 5904	POLYESTER 8200P K 50V	1
C773	403 061 8709	POLYESTER 4700P K 50V	1
C774	403 061 8709	POLYESTER 4700P K 50V	1
C775	403 042 0302	ELECT 10U M 16V	1
C776	403 038 2402	ELECT 100U M 6.3V	1
C777	403 042 0302	ELECT 10U M 16V	1
C778	403 042 0302	ELECT 10U M 16V	1
C779	403 003 3700	CERAMIC 0.022U Z 25V	1
C780	403 042 0302	ELECT 10U M 16V	1
C781	403 003 3700	CERAMIC 0.022U Z 25V	1
C782	403 039 2906	ELECT 47U M 6.3V	1
C783	403 039 2906	ELECT 47U M 6.3V	1
C784	403 044 0300	ELECT 47U M 16V	1
C785	403 003 3700	CERAMIC 0.022U Z 25V	1
C786	403 038 7209	ELECT 220U M 6.3V	1
C787	403 038 7209	ELECT 220U M 6.3V	1
C788	403 038 7209	ELECT 220U M 6.3V	1
C789	403 038 7209	ELECT 220U M 6.3V	1
C790	403 038 7209	ELECT 220U M 6.3V	1
C791	403 038 7209	ELECT 220U M 6.3V	1
C792	403 038 7209	ELECT 220U M 6.3V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description		Q'ty
C793	403 038 7209	ELECT	220U M 6.3V	1
C794	403 039 4504	ELECT	470U M 6.3V	1
C795	403 039 4504	ELECT	470U M 6.3V	1
C796	403 039 4504	ELECT	470U M 6.3V	1
C797	403 039 4504	ELECT	470U M 6.3V	1
C798	403 047 4305	ELECT	47U M 25V	1
C799	403 047 6309	ELECT	470U M 25V	1
C800	403 068 9402	CERAMIC	100P K 50V	1
R701	401 028 7109	CARBON	1.2K JA 1/8W	1
R702	401 028 7109	CARBON	1.2K JA 1/8W	1
R703	401 029 2004	CARBON	150K JA 1/8W	1
R704	401 028 4207	CARBON	100K JA 1/8W	1
R705	401 028 3200	CARBON	1K JA 1/8W	1
R706	401 030 9702	CARBON	33K JA 1/8W	1
R707	401 032 0608	CARBON	5.6K JA 1/8W	1
R708	401 028 4207	CARBON	100K JA 1/8W	1
R709	401 028 4702	CARBON	1M JA 1/8W	1
R710	401 032 0608	CARBON	5.6K JA 1/8W	1
R711	401 028 3705	CARBON	10K JA 1/8W	1
R712	401 028 4207	CARBON	100K JA 1/8W	1
R713	401 030 9207	CARBON	3.3K JA 1/8W	1
R714	401 031 6601	CARBON	4.7K JA 1/8W	1
R715	401 029 9706	CARBON	220 JA 1/8W	1
R716	401 030 0709	CARBON	22K JA 1/8W	1
R717	401 012 5708	CARBON	1K JA 1/4W	1
R718	401 032 0103	CARBON	560 JA 1/8W	1
R719	401 031 6601	CARBON	4.7K JA 1/8W	1
R720	401 031 6106	CARBON	470 JA 1/8W	1
R721	401 029 1502	CARBON	15K JA 1/8W	1
R722	401 030 0204	CARBON	2.2K JA 1/8W	1
R723	401 030 0709	CARBON	22K JA 1/8W	1
R724	401 030 0709	CARBON	22K JA 1/8W	1
R725	401 028 4207	CARBON	100K JA 1/8W	1
R726	401 028 4207	CARBON	100K JA 1/8W	1
R727	401 028 3705	CARBON	10K JA 1/8W	1
R728	401 030 0204	CARBON	2.2K JA 1/8W	1
R729	401 030 1300	CARBON	220K JA 1/8W	1
R730	401 030 3700	CARBON	270 JA 1/8W	1
R731	401 028 7604	CARBON	12K JA 1/8W	1
R732	401 031 2801	CARBON	39K JA 1/8W	1
R733	401 031 2801	CARBON	39K JA 1/8W	1
R734	401 029 1502	CARBON	15K JA 1/8W	1
R735	401 030 4707	CARBON	27K JA 1/8W	1
R736	401 030 1300	CARBON	220K JA 1/8W	1
R737	401 031 7202	CARBON	47K JA 1/8W	1
R738	401 030 1300	CARBON	220K JA 1/8W	1
R739	401 030 5209	CARBON	270K JA 1/8W	1
R740	401 030 5209	CARBON	270K JA 1/8W	1
R741	401 031 7202	CARBON	47K JA 1/8W	1
R742	401 028 8106	CARBON	120K JA 1/8W	1
R743	401 029 5500	CARBON	18K JA 1/8W	1
R744	401 028 2609	CARBON	100 JA 1/8W	1
R745	401 030 9702	CARBON	33K JA 1/8W	1
R746	401 028 3705	CARBON	10K JA 1/8W	1
R747	401 031 7202	CARBON	47K JA 1/8W	1
R748	401 030 9207	CARBON	3.3K JA 1/8W	1
R749	401 028 3705	CARBON	10K JA 1/8W	1
R750	401 031 3907	CARBON	4.7 JA 1/8W	1
R751	401 029 6804	CARBON	2.2 JA 1/8W	1
R752	401 031 0203	CARBON	330K JA 1/8W	1
R753	401 030 4707	CARBON	27K JA 1/8W	1
R754	401 030 0709	CARBON	22K JA 1/8W	1
R755	401 028 4207	CARBON	100K JA 1/8W	1
R756	401 031 3907	CARBON	4.7 JA 1/8W	1
R757	401 029 6804	CARBON	2.2 JA 1/8W	1
R758	401 030 5209	CARBON	270K JA 1/8W	1
R759	401 031 7202	CARBON	47K JA 1/8W	1
R760	401 028 7109	CARBON	1.2K JA 1/8W	1
R761	401 030 0709	CARBON	22K JA 1/8W	1
R762	401 012 8105	CARBON	100K JA 1/4W	1
R763	401 012 8105	CARBON	100K JA 1/4W	1
R764	401 032 1506	CARBON	560K JA 1/8W	1
R765	401 032 1506	CARBON	560K JA 1/8W	1
R766	401 032 1100	CARBON	56K JA 1/8W	1
R767	401 029 9102	CARBON	22 JA 1/8W	1
R768	401 029 6804	CARBON	2.2 JA 1/8W	1
R769	401 028 3705	CARBON	10K JA 1/8W	1
R770	401 031 7202	CARBON	47K JA 1/8W	1
R771	401 032 4002	CARBON	680 JA 1/8W	1
R772	401 031 3907	CARBON	4.7 JA 1/8W	1
R773	401 031 3907	CARBON	4.7 JA 1/8W	1
R774	401 028 7109	CARBON	1.2K JA 1/8W	1
R775	401 030 0709	CARBON	22K JA 1/8W	1
R776	401 030 0204	CARBON	2.2K JA 1/8W	1
R777	401 032 4606	CARBON	6.8K JA 1/8W	1
R778	401 028 3705	CARBON	10K JA 1/8W	1
R779	401 028 3705	CARBON	10K JA 1/8W	1
R780	401 028 4207	CARBON	100K JA 1/8W	1
R781	401 033 1000	CARBON	91K JA 1/8W	1
R782	401 028 4207	CARBON	100K JA 1/8W	1
R783	401 028 4207	CARBON	100K JA 1/8W	1
R784	401 029 9102	CARBON	22 JA 1/8W	1
R785	401 029 6804	CARBON	2.2 JA 1/8W	1
R786	401 028 8106	CARBON	120K JA 1/8W	1
R787	401 028 3705	CARBON	10K JA 1/8W	1
R788	401 030 0204	CARBON	2.2K JA 1/8W	1
R789	401 030 0709	CARBON	22K JA 1/8W	1
R790	401 030 0204	CARBON	2.2K JA 1/8W	1
R791	401 030 0204	CARBON	2.2K JA 1/8W	1
R792	401 032 5108	CARBON	68K JA 1/8W	1
R793	401 030 4202	CARBON	2.7K JA 1/8W	1
R794	401 028 9608	CARBON	130K JA 1/8W	1
R795	401 028 3705	CARBON	10K JA 1/8W	1
R796	401 028 3705	CARBON	10K JA 1/8W	1
R797	401 032 5108	CARBON	68K JA 1/8W	1
R798	401 029 2004	CARBON	150K JA 1/8W	1
R799	401 029 9706	CARBON	220 JA 1/8W	1
R800	401 029 9706	CARBON	220 JA 1/8W	1
R801	401 029 9706	CARBON	220 JA 1/8W	1
R802	401 029 9706	CARBON	220 JA 1/8W	1
R803	401 029 9706	CARBON	220 JA 1/8W	1
R804	401 029 9706	CARBON	220 JA 1/8W	1
R805	401 029 9706	CARBON	220 JA 1/8W	1
R806	401 029 4503	CARBON	180 JA 1/8W	1
R807	401 029 9706	CARBON	220 JA 1/8W	1
R808	401 029 9706	CARBON	220 JA 1/8W	1
R809	401 028 3705	CARBON	10K JA 1/8W	1
R810	401 028 3705	CARBON	10K JA 1/8W	1
R811	401 028 4207	CARBON	100K JA 1/8W	1
R812	401 028 4207	CARBON	100K JA 1/8W	1
R813	401 028 4207	CARBON	100K JA 1/8W	1
R814	401 028 4207	CARBON	100K JA 1/8W	1
R815	401 029 1502	CARBON	15K JA 1/8W	1
R816	401 029 1502	CARBON	15K JA 1/8W	1
R817	401 031 6106	CARBON	470 JA 1/8W	1
R818	401 031 6106	CARBON	470 JA 1/8W	1
R819	401 030 1300	CARBON	220K JA 1/8W	1
R820	401 030 1300	CARBON	220K JA 1/8W	1
R821	401 029 4503	CARBON	180 JA 1/8W	1
R822	401 029 4503	CARBON	180 JA 1/8W	1
R823	401 032 8703	CARBON	8.2K JA 1/8W	1
R824	401 032 8703	CARBON	8.2K JA 1/8W	1
R825	401 031 6106	CARBON	470 JA 1/8W	1
R826	401 031 6106	CARBON	470 JA 1/8W	1
R827	401 032 8703	CARBON	8.2K JA 1/8W	1
R828	401 032 8703	CARBON	8.2K JA 1/8W	1
R829	401 028 3200	CARBON	1K JA 1/8W	1
R830	401 028 3200	CARBON	1K JA 1/8W	1
R831	401 032 0608	CARBON	5.6K JA 1/8W	1
R832	401 032 0608	CARBON	5.6K JA 1/8W	1
R833	401 028 4207	CARBON	100K JA 1/8W	1
R834	401 028 3705	CARBON	10K JA 1/8W	1
R835	401 028 8106	CARBON	120K JA 1/8W	1
R836	401 032 5108	CARBON	68K JA 1/8W	1
R837	401 032 8703	CARBON	8.2K JA 1/8W	1
R838	401 029 1502	CARBON	15K JA 1/8W	1
R839	401 028 3705	CARBON	10K JA 1/8W	1
R840	401 016 4806	CARBON	22K JA 1/4W	1
R841	401 031 6601	CARBON	4.7K JA 1/8W	1
R842	401 031 6601	CARBON	4.7K JA 1/8W	1
R843	401 032 7805	CARBON	82 JA 1/8W	1
R844	401 031 5505	CARBON	47 JA 1/8W	1
R845	401 029 4503	CARBON	180 JA 1/8W	1
R846	401 031 5505	CARBON	47 JA 1/8W	1
R847	401 030 0204	CARBON	2.2K JA 1/8W	1
GRAPHIC EQ. P.C.B. ASSY				
85	620 191 2821	Graphic EQ. P.C.B. Assy		1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
VR301	620 006 3791	Slide VR 2X50KW	1
VR302	620 006 3791	Slide VR 2X50KW	1
VR303	620 006 3791	Slide VR 2X50KW	1
VR304	620 006 3791	Slide VR 2X50KW	1
VR305	620 191 4207	Slide VR 100KW	1
VR306	620 191 8298	VR 2X50KB	1
W302	620 191 8359	Flat Wire 4	1
W303	620 191 8342	Flat Wire 3	1
IC302	409 068 2009	IC BA3824LS	1
C121	403 069 0705	CERAMIC 1000P K 50V	1
C122	403 069 0705	CERAMIC 1000P K 50V	1
C123	403 047 1502	ELECT 4.7U M 25V	1
C124	403 047 1502	ELECT 4.7U M 25V	1
C125	403 047 1502	ELECT 4.7U M 25V	1
C126	403 047 1502	ELECT 4.7U M 25V	1
C127	403 005 0806	CERAMIC 0.033U K 50V	1
C128	403 005 0806	CERAMIC 0.033U K 50V	1
C129	403 048 7602	ELECT 0.47U M 50V	1
C130	403 048 7602	ELECT 0.47U M 50V	1
C131	403 002 1905	CERAMIC 0.01U K 25V	1
C132	403 002 1905	CERAMIC 0.01U K 25V	1
C133	403 004 4607	CERAMIC 0.068U K 25V	1
C134	403 004 4607	CERAMIC 0.068U K 25V	1
C135	403 070 8608	CERAMIC 1500P K 50V	1
C136	403 070 8608	CERAMIC 1500P K 50V	1
C137	403 003 2802	CERAMIC 0.022U K 25V	1
C138	403 003 2802	CERAMIC 0.022U K 25V	1
C139	403 072 7906	CERAMIC 330P K 50V	1
C140	403 072 7906	CERAMIC 330P K 50V	1
C141	403 073 8407	CERAMIC 4700P K 50V	1
C142	403 073 8407	CERAMIC 4700P K 50V	1
C143	403 072 9603	CERAMIC 3300P K 50V	1
C144	403 072 9603	CERAMIC 3300P K 50V	1
C145	403 004 0500	CERAMIC 0.047U K 25V	1
C146	403 004 0500	CERAMIC 0.047U K 25V	1
C307	403 040 4807	ELECT 220U M 10V	1
R135	401 030 0204	CARBON 2.2K JA 1/8W	1
R136	401 030 0204	CARBON 2.2K JA 1/8W	1
R137	401 030 9207	CARBON 3.3K JA 1/8W	1
R138	401 030 9207	CARBON 3.3K JA 1/8W	1
BATTERY P.C.B. ASSY			
86	620 191 2845	Battery P.C.B. Assy	1
	620 191 2555	PCB Battery	1
LED 1 P.C.B. ASSY			
87	620 191 2852	LED 1 P.C.B. Assy	1
CN301	620 191 8199	Connector 2P Assy	1
D313	407 027 8901	LED SLP-155B-50	1
CD CONTROL P.C.B. ASSY			
88	620 191 7574	CD Control P.C.B. Assy	1
CN705	620 191 8144	Connector 3P Assy	1
CN707	620 191 8137	Connector 10P Assy	1
CN708	620 191 8120	Connector 7P Assy	1
S861	620 016 4085	Touch Switch	1
S862	620 016 4085	Touch Switch	1
S863	620 016 4085	Touch Switch	1
S864	620 016 4085	Touch Switch	1
S865	620 016 4085	Touch Switch	1
S866	620 016 4085	Touch Switch	1
S867	620 016 4085	Touch Switch	1
S891	620 191 6324	Slide Switch 2P2T	1
Q861	405 034 8105	TR DTA143-XF	1
Q862	405 034 8105	TR DTA143-XF	1
Q863	405 034 8105	TR DTA143-XF	1
D861	407 007 9904	DIODE GMA01-BT	1
D862	407 007 9904	DIODE GMA01-BT	1
D863	407 007 9904	DIODE GMA01-BT	1
D864	407 007 9904	DIODE GMA01-BT	1
D865	407 007 9904	DIODE GMA01-BT	1
D866	407 007 9904	DIODE GMA01-BT	1
D867	407 007 9904	DIODE GMA01-BT	1
D868	407 084 0306	LED SL-1255	1
D869	407 062 9208	LED SLB-55MG3	1
D870	407 062 9307	LED SLB-55VR3	1
D871	407 062 9307	LED SLB-55VR3	1
D872	407 062 9307	LED SLB-55VR3	1
D873	407 062 9307	LED SLB-55VR3	1

Ref. No.	Part No.	Description	Q'ty
CD EJECT SWITCH P.C.B. ASSY			
89	620 191 7581	CD Eject Switch P.C.B. Assy	1
CN706	620 191 8175	Connector 2P Assy	1
S881	620 016 8960	Detector Switch 1P2T	1
LED 2 P.C.B. ASSY			
90	620 191 8458	LED 2 P.C.B. Assy	1
D2	407 062 9307	LED SLB-55VR3	1
CONTROL P.C.B. ASSY			
142	620 191 2838	Control P.C.B. Assy	1
P301	620 006 2008	Potentiometer 500B	1
R361	620 004 3618	Resistor	1
S306	620 016 2159	Leaf Switch	1
W301	620 191 8335	Flat Wire 9	1
Q309	405 012 8202	TR 2SC2021-E	1
Q310	405 012 8202	TR 2SC2021-E	1
Q311	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
D317	407 005 4703	DIODE DS446-BT	1
D318	407 005 1603	DIODE DS135D	1
D319	407 005 1603	DIODE DS135D	1
D321	407 008 0405	DIODE GMB01-BT	1
D322	407 008 0405	DIODE GMB01-BT	1
C350	403 069 1207	CERAMIC 1000P K 50V	1
C359	403 069 0705	CERAMIC 1000P K 50V	1
R353	401 028 3705	CARBON 10K JA 1/8W	1
R354	401 030 0709	CARBON 22K JA 1/8W	1
R355	401 030 9702	CARBON 33K JA 1/8W	1
R356	401 031 6601	CARBON 4.7K JA 1/8W	1
R357	401 029 1502	CARBON 15K JA 1/8W	1
R358	401 029 4503	CARBON 180 JA 1/8W	1
R359	401 029 5005	CARBON 1.8K JA 1/8W	1
R362	401 030 0709	CARBON 22K JA 1/8W	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

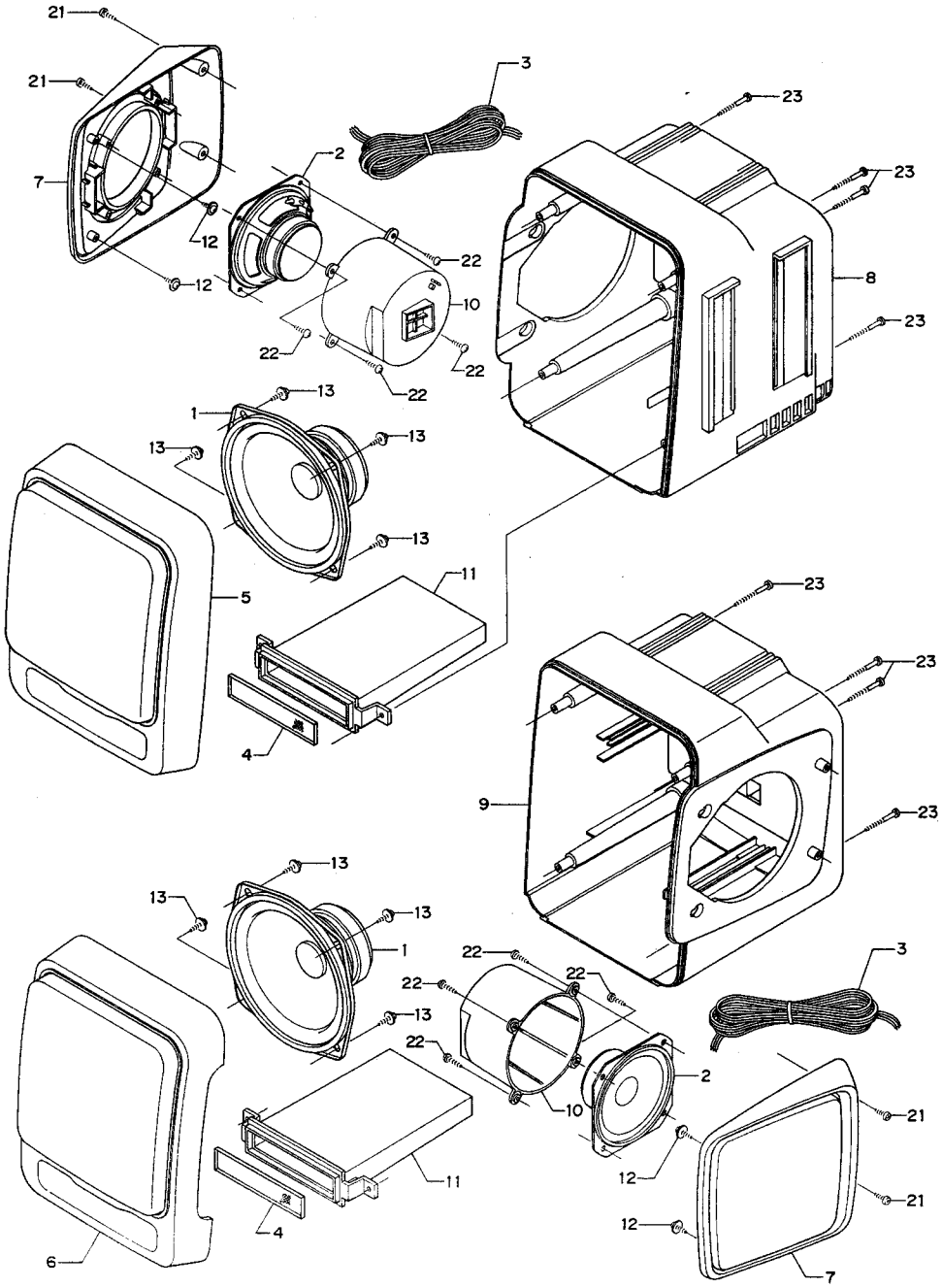
SPEAKER BOX PARTS LIST

Ref. No.	Part No.	Description	Q'ty
SPEAKER BOX			
	620 189 1300	Sheet	8
1	620 191 8083	Speaker 120mm (3.2Ω)	2
2	620 191 8090	Speaker 80mm (8Ω)	2
3	620 024 3407	Parallel Wire 3	2
4	620 195 1820	Veil,Duct	2
5	620 197 6380	Speaker Front Left Assy	1
6	620 197 6397	Speaker Front Right Assy	1
7	620 189 0976	Panel Surround Assy	2
8	620 186 2959	Speaker Box Back Left	1
9	620 186 2966	Speaker Box Back R	1
10	620 187 8059	Cover Surround SP	2
11	620 187 8066	Duct Speaker	2
12	620 122 6874	Poly Wave Screw	4
13	620 123 0802	Screw	8
21	411 023 4201	SCR S-TPG PAN 3X10	4
22	411 023 4508	SCR S-TPG PAN 3X12	8
23	411 001 1703	SCR S-TPG PAN 3X30	8

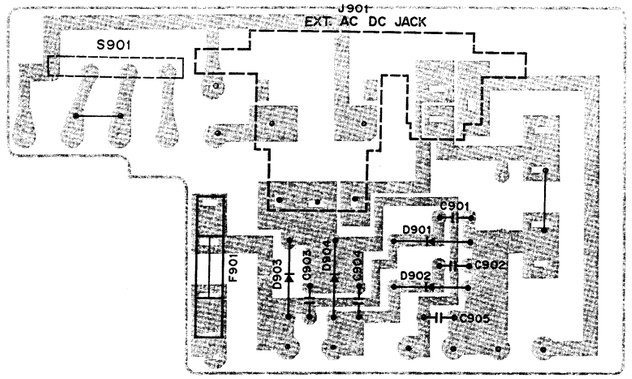
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

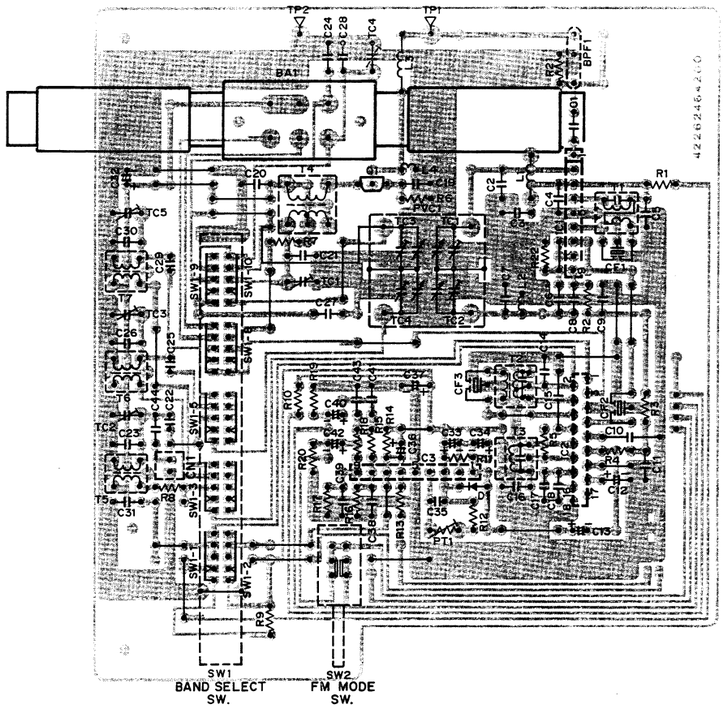
SPEAKER BOX EXPLODED VIEW



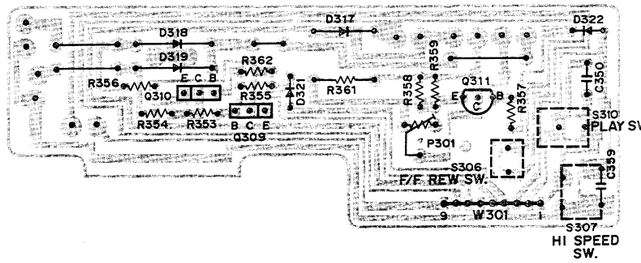
POWER P.C.BOARD
(BOTTOM VIEW)



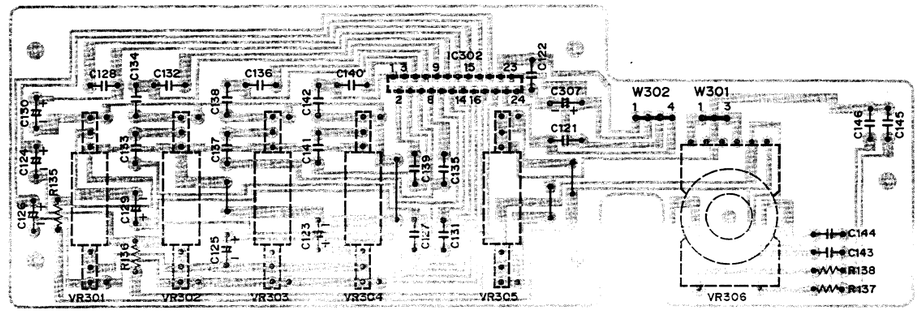
RADIO TUNER P.C.BOARD
(BOTTOM VIEW)



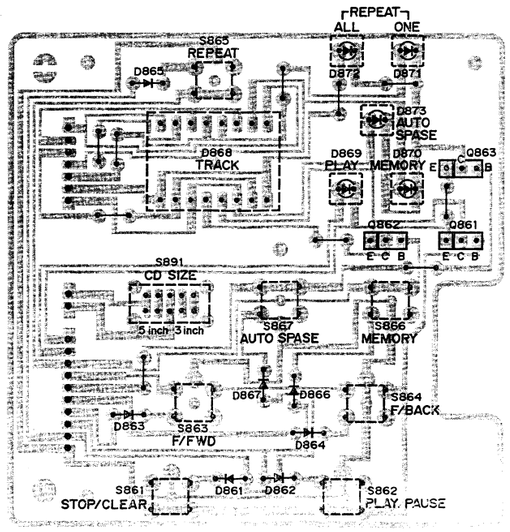
CONTROL P.C.BOARD
(BOTTOM VIEW)



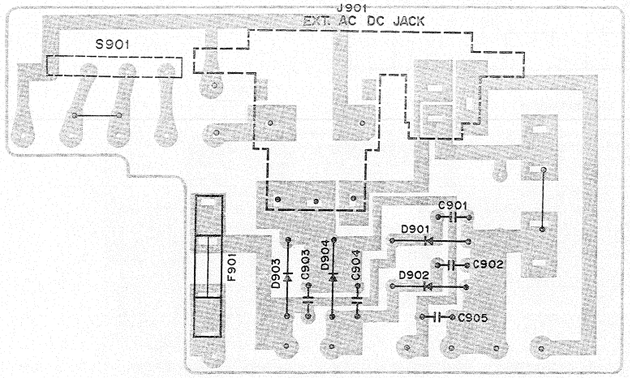
GRAPHIC EQ. P.C.BOARD
(BOTTOM VIEW)



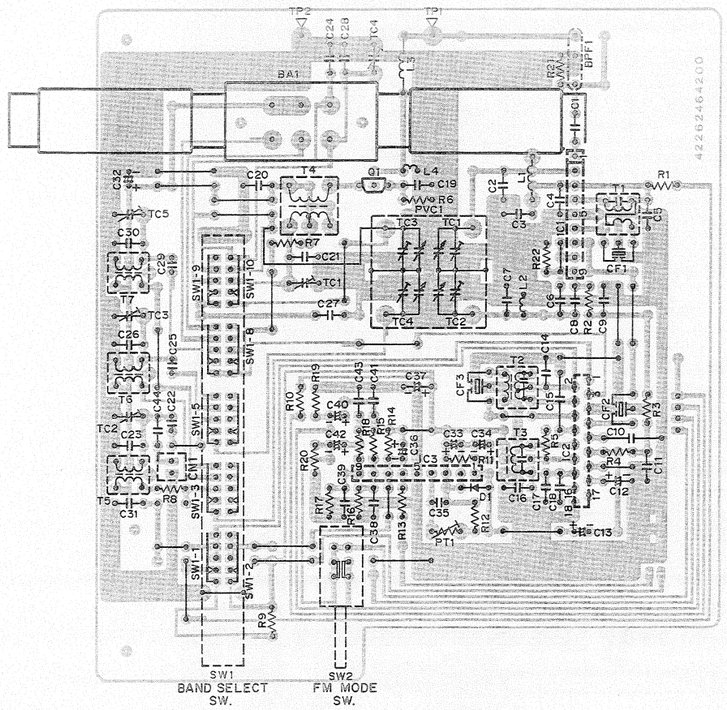
CD CONTROL P.C.BOARD
(BOTTOM VIEW)



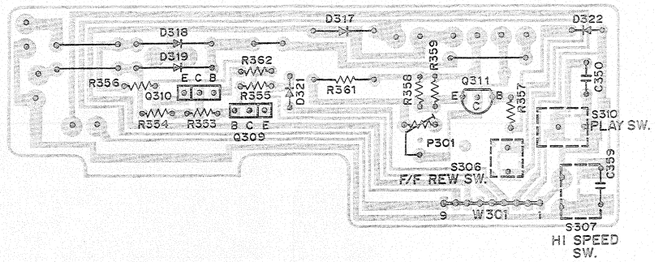
POWER P.C.BOARD
(BOTTOM VIEW)



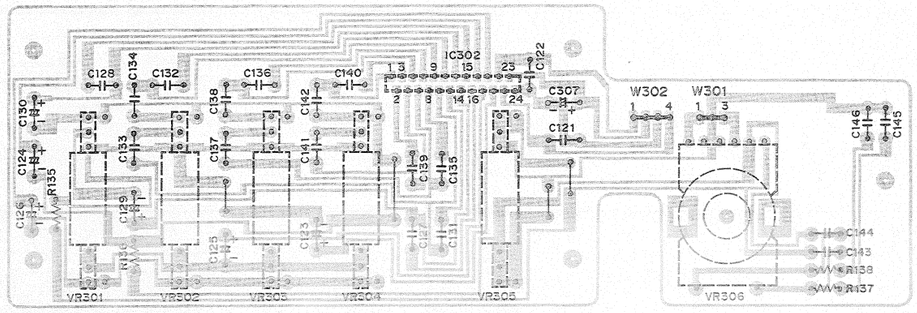
RADIO TUNER P.C.BOARD
(BOTTOM VIEW)



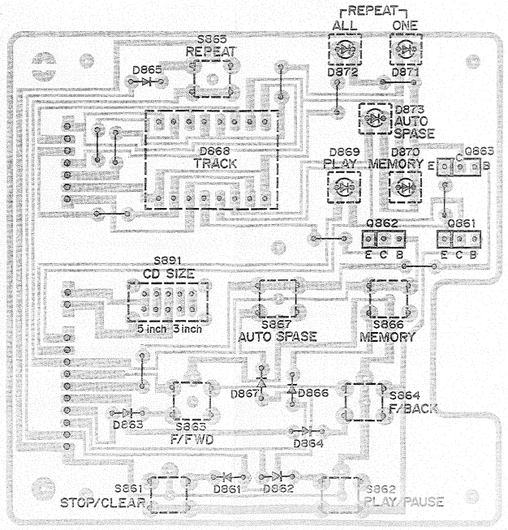
CONTROL P.C.BOARD
(BOTTOM VIEW)



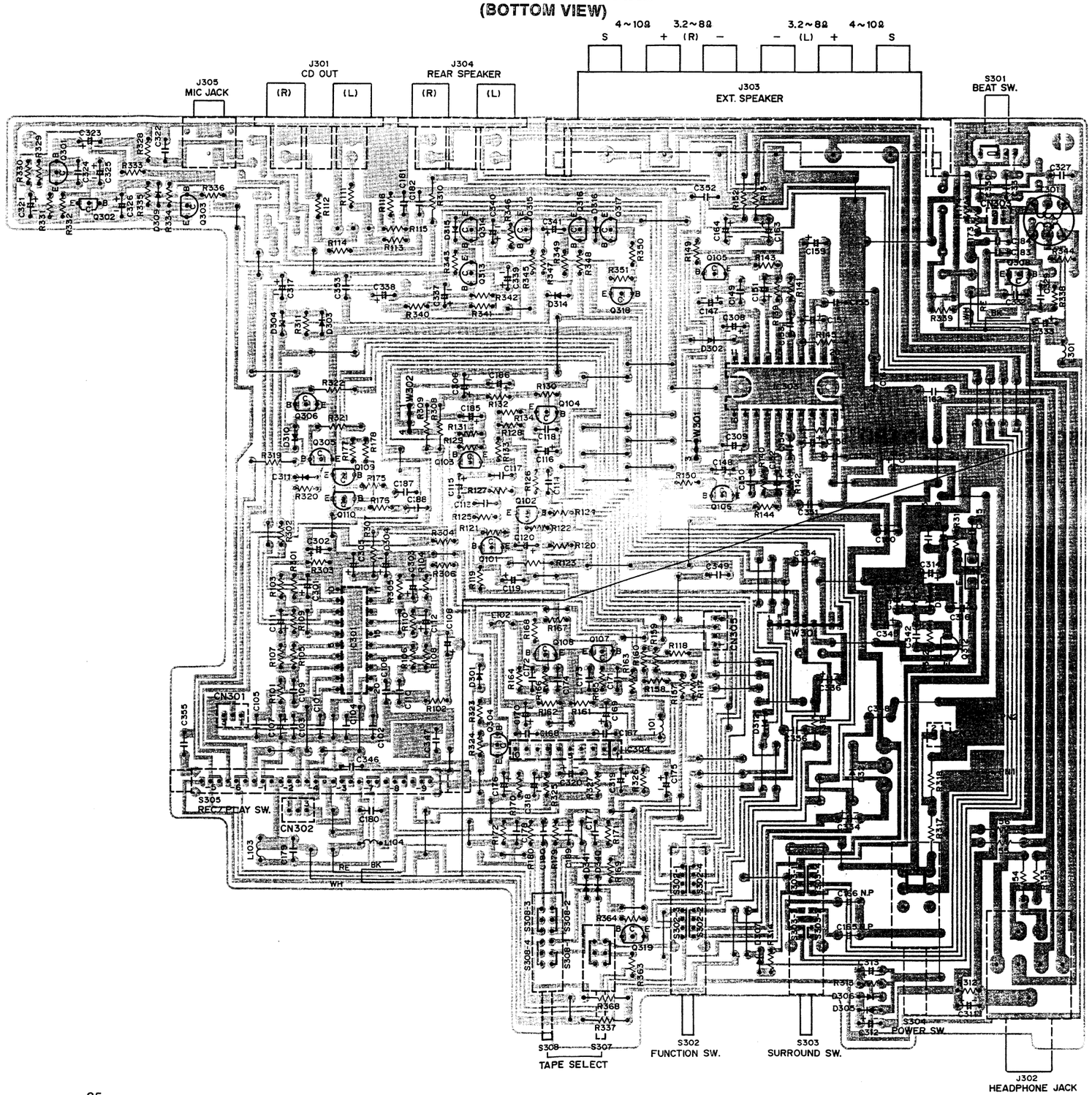
GRAPHIC EQ. P.C.BOARD
(BOTTOM VIEW)



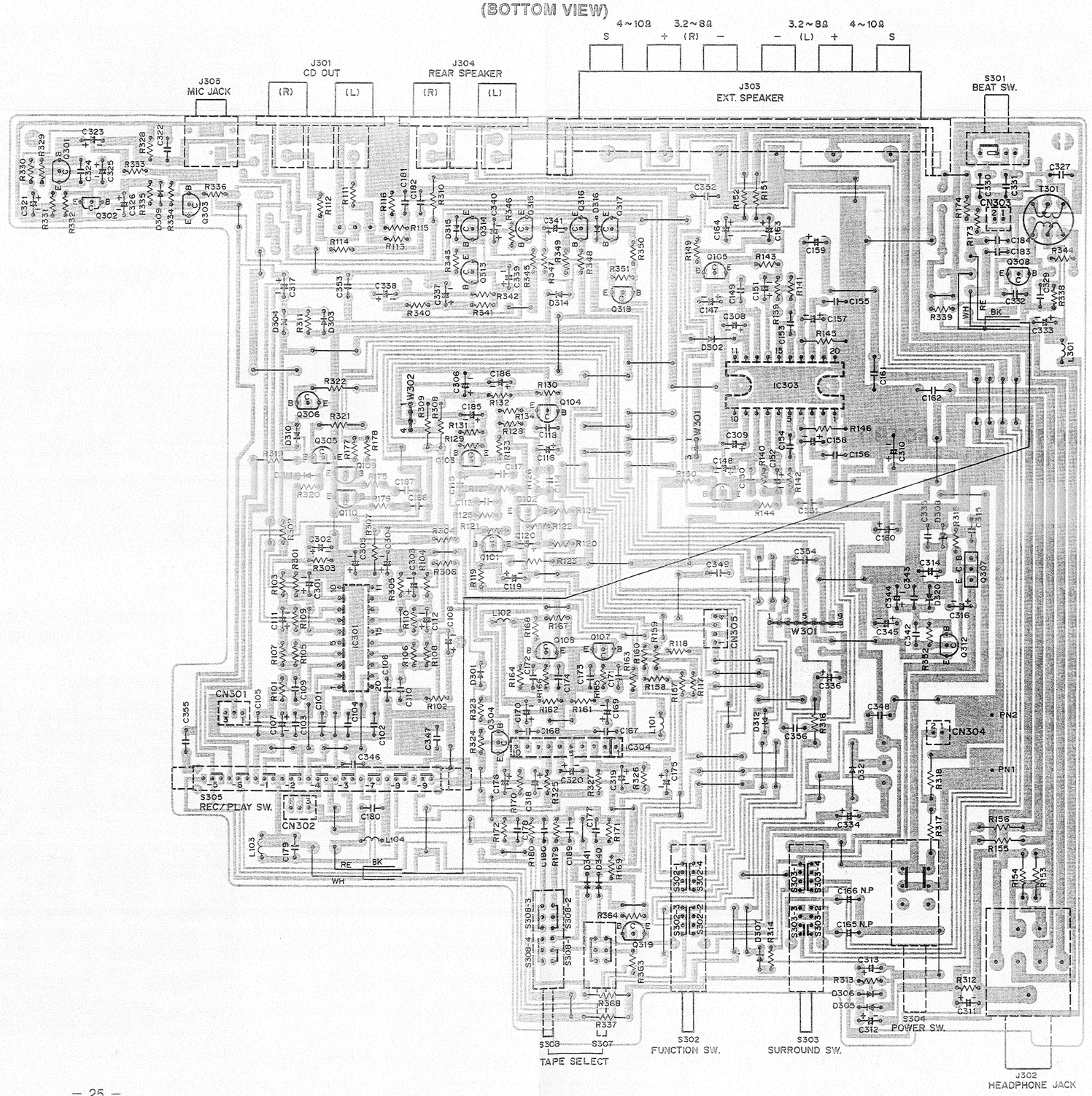
CD CONTROL P.C.BOARD
(BOTTOM VIEW)



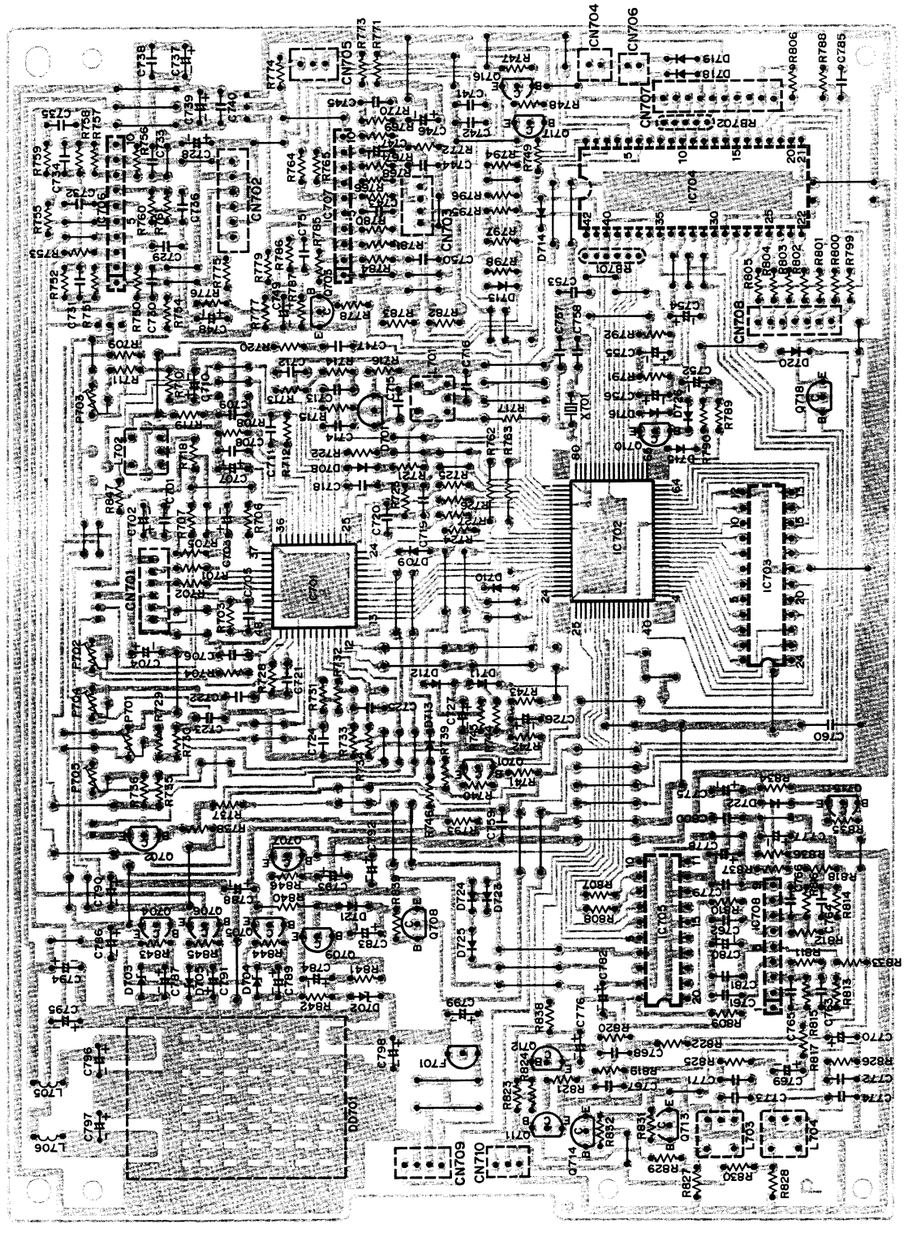
AMPLIFIER P.C.BOARD
(BOTTOM VIEW)



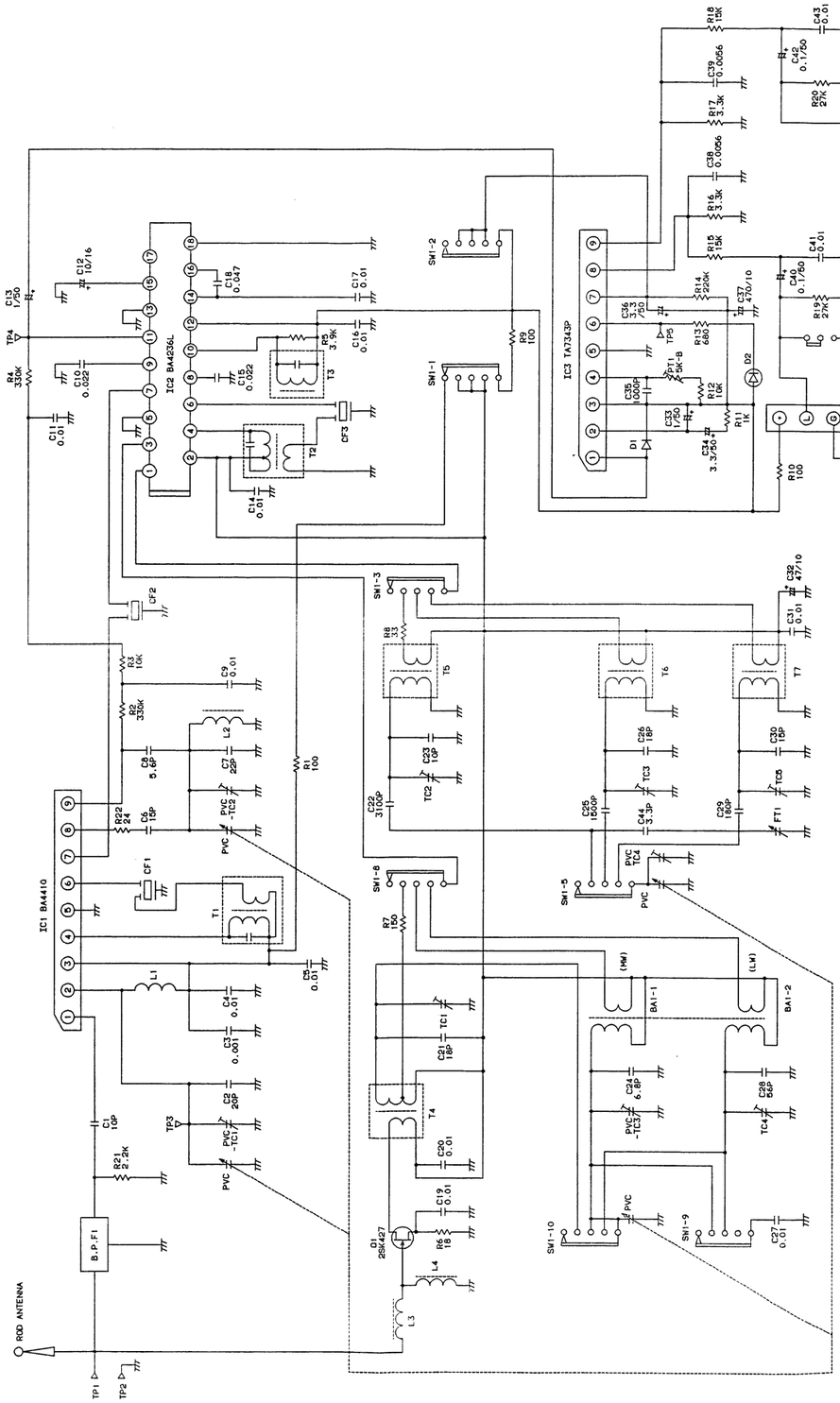
AMPLIFIER P.C.BOARD
(BOTTOM VIEW)



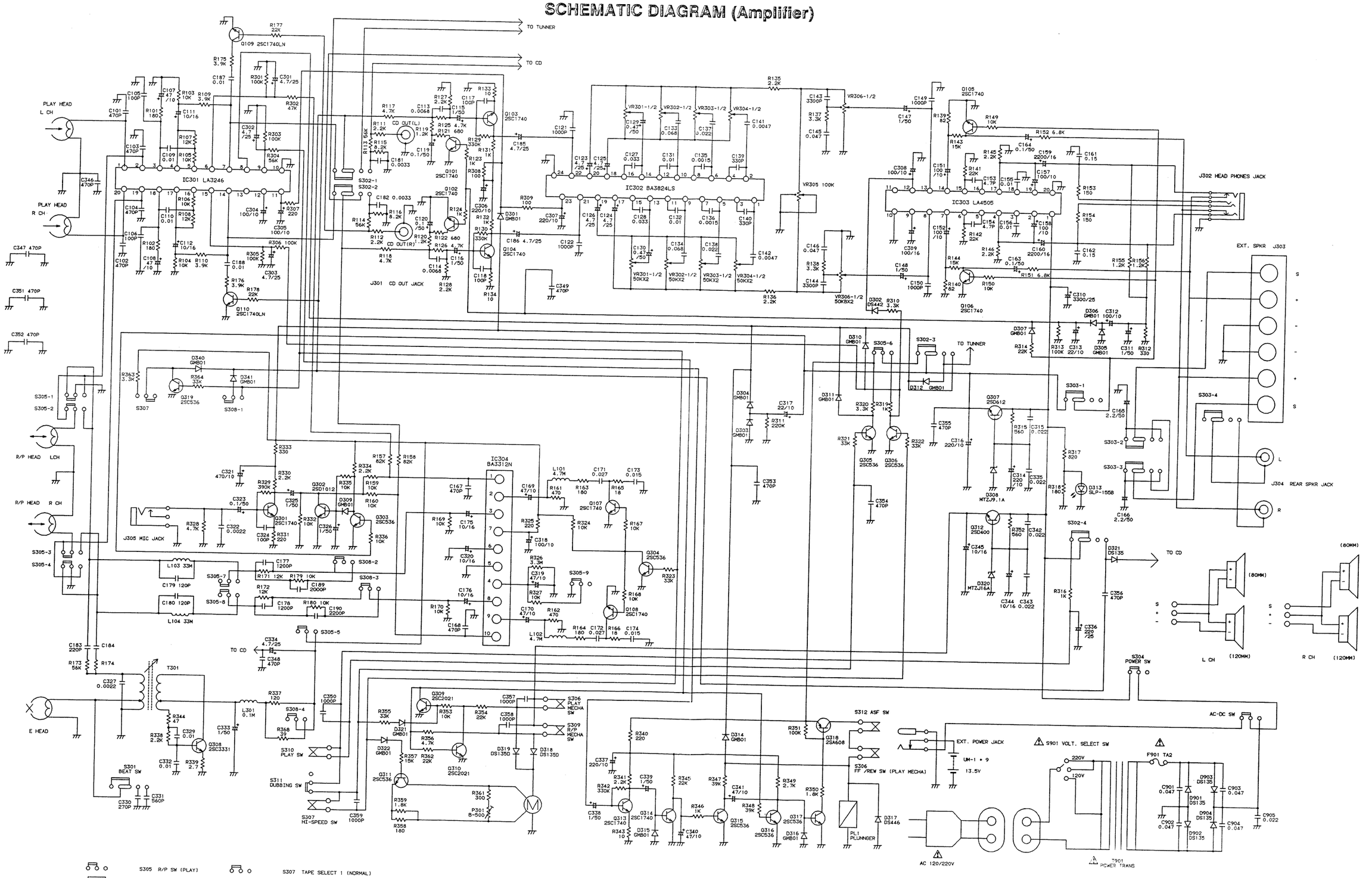
CD P.C.BOARD
(BOTTOM VIEW)



SCHEMATIC DIAGRAM (Tuner)

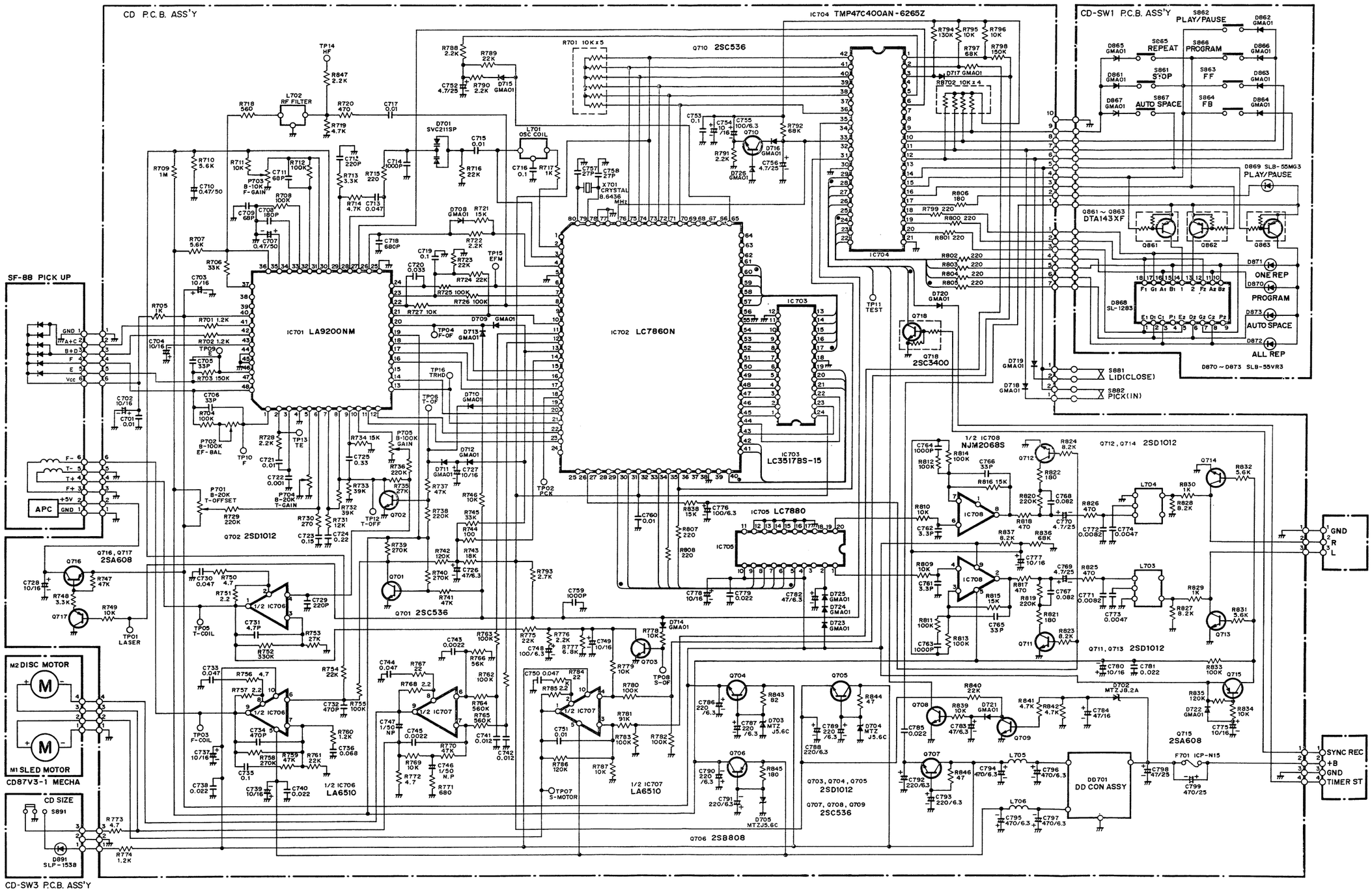


SCHEMATIC DIAGRAM (Amplifier)

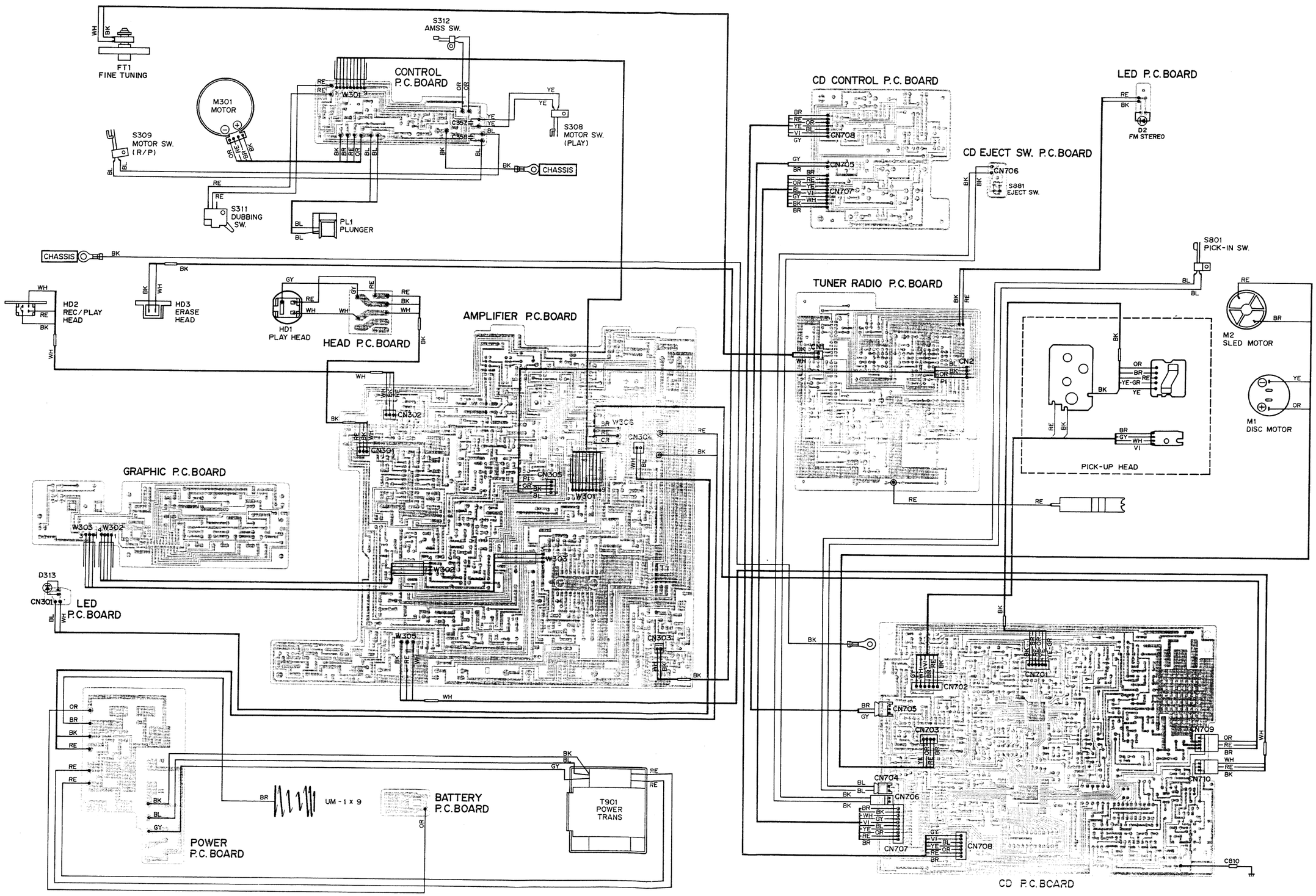


S305 R/P SW (PLAY)
S302 FUNCTION SW (TAPE)
S303 SURROND SW (OFF)
S307 TAPE SELECT 1 (NORMAL)
S308 TAPE SELECT 2 (NORMAL)

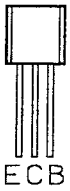
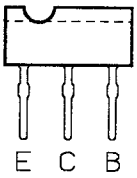
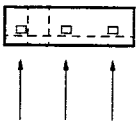
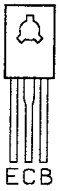
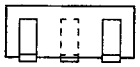
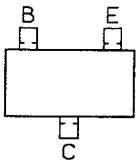
SCHEMATIC DIAGRAM (CD)



WIRING DIAGRAM

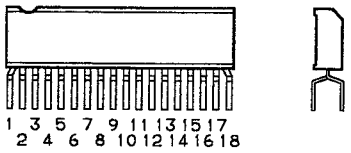


IC & TRANSISTOR LEAD IDENTIFICATION

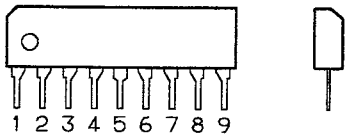
TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SB598 2SC1740 2SC3331 2SC536			2SD400		
DTA143 2SC2021			2SD612		
2SB808 2SC3400 2SC536 2SD1012			2SC2812		

TERMINAL NAME
B → BASE C → COLLECTOR E → EMITTER

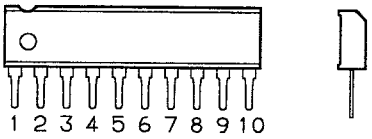
BA4236L FRONT/SIDE VIEWS



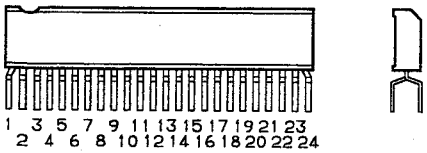
NJM2068S-D FRONT/SIDE VIEWS



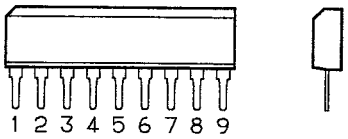
BA3312N FRONT/SIDE VIEWS



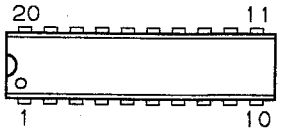
BA3824LS FRONT/SIDE VIEWS



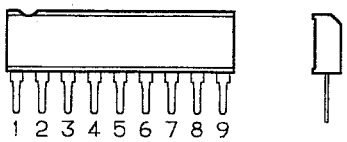
TA7343P FRONT/SIDE VIEWS



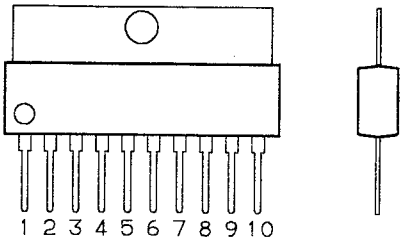
LA3246 TOP VIEW
LC7880 TOP VIEW



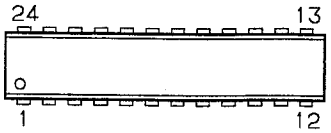
BA4410 FRONT/SIDE VIEWS



LA6510 FRONT/SIDE VIEWS

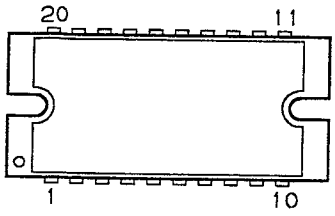


LC3517BS-15 TOP VIEW

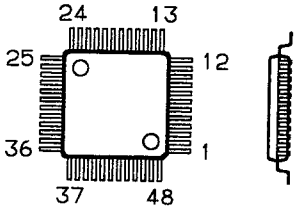


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

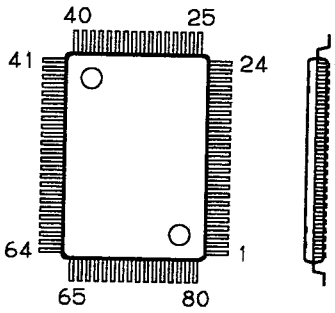
LA4505 TOP VIEW



LA9200NM TOP/SIDE VIEWS

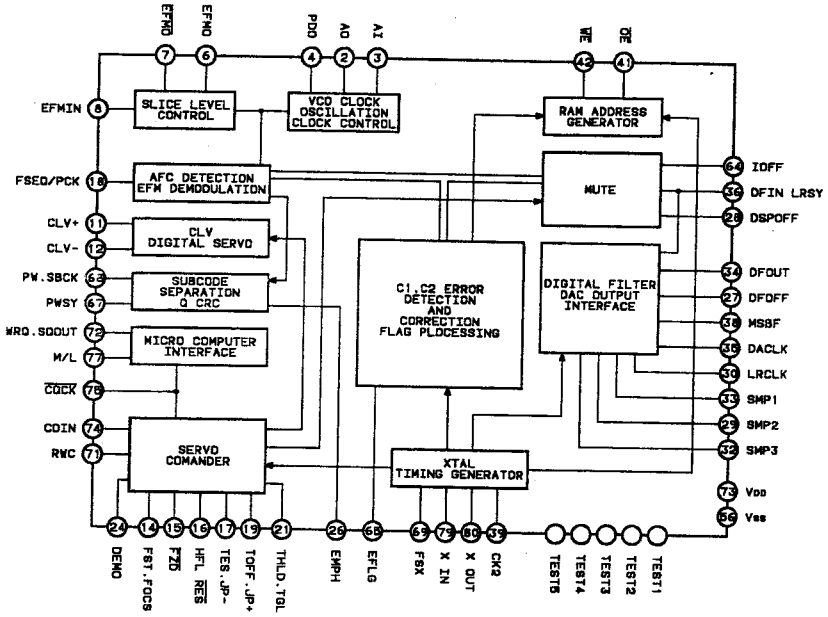


LC7860N TOP/SIDE VIEWS



IC BLOCK DIAGRAM

LC7860N BLOCK DIAGRAM



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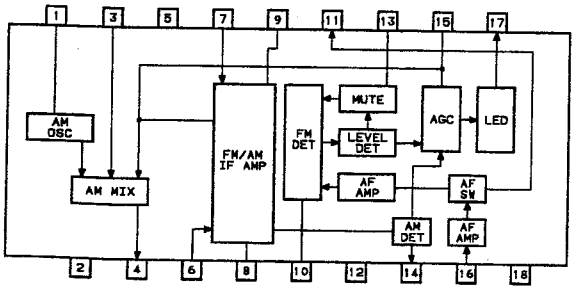
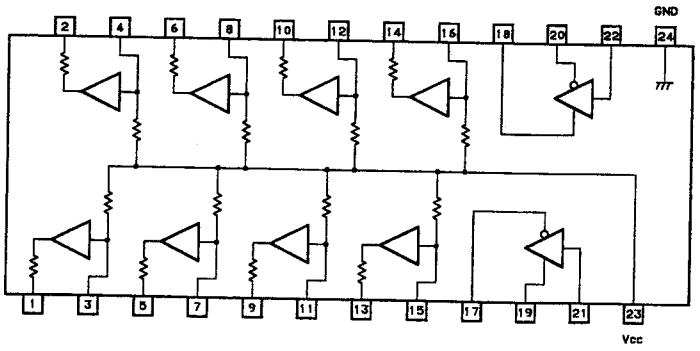


BA3824LS BLOCK DIAGRAM



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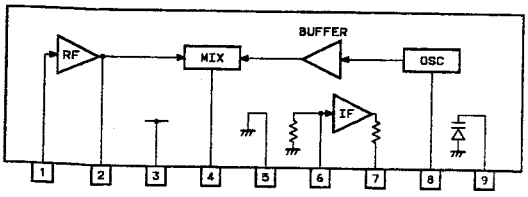
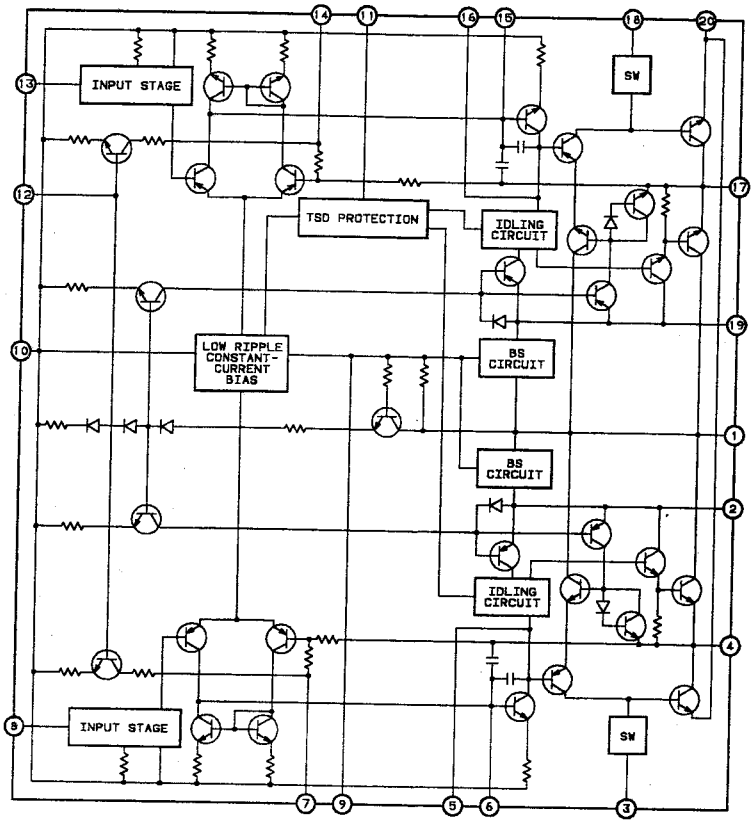
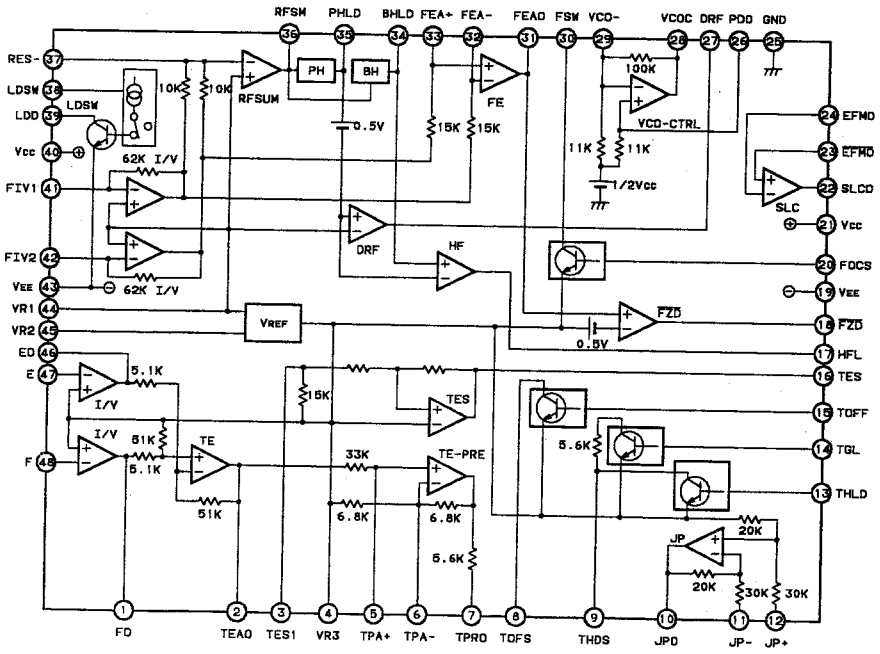


IC BLOCK DIAGRAM (Continued)

LA4505 BLOCK DIAGRAM



LA9200NM BLOCK DIAGRAM


RFSM PHLD BHLD FEA+ FEA- FEAO FSW VCO- VCOC DRF PDO GND
RES- LDSW LDD Vcc FIV1 FIV2 VEE VR1 VR2 ED E F
RFSUM PH BH FE
10K 10K 0.5V 15K 15K
LDSW
62K I/V
62K I/V
100K VCO-CTRL
11K 11K 1/2Vcc
SLC
DRF HF
VREF
FZD 0.5V
5.1K I/V
I/V 51K 5.1K TE
15K TES
33K TE-PRE
6.8K 6.8K 6.8K 5.6K
51K
5.6K
JP 20K 20K 30K 30K
EFMO EFMO SLCO Vcc FOCS VEE FZD HFL TES TOFF TGL THLD
FO TEAO TES1 VR3 TPA+ TPA- TPRO TOFS THDS JPO JP- JP+

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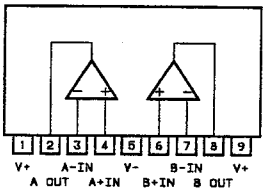
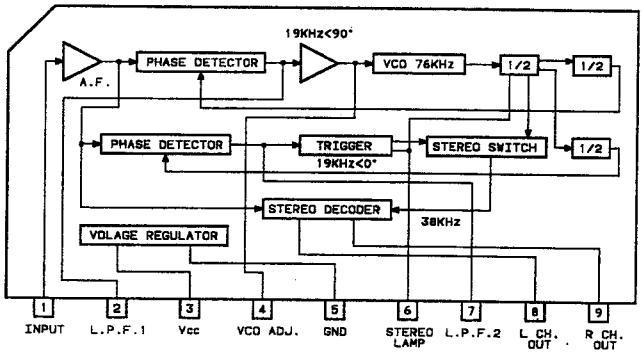
Stahlgruberring 4
8000 München 82
Tel: 089/420 45-0
Tlx: 524033

IC BLOCK DIAGRAM (Continued)

NJM2068S-D BLOCK DIAGRAM



TA7343P BLOCK DIAGRAM



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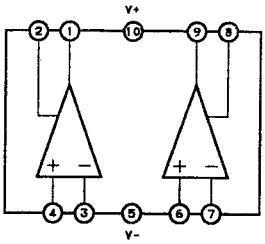

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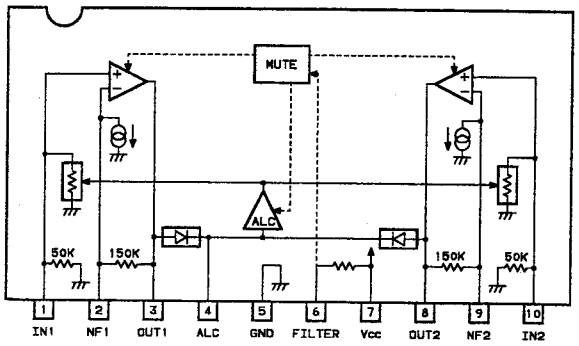
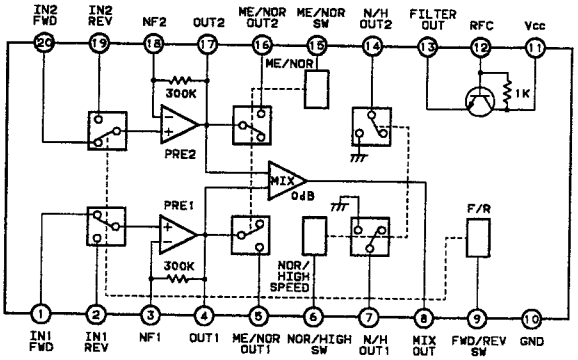
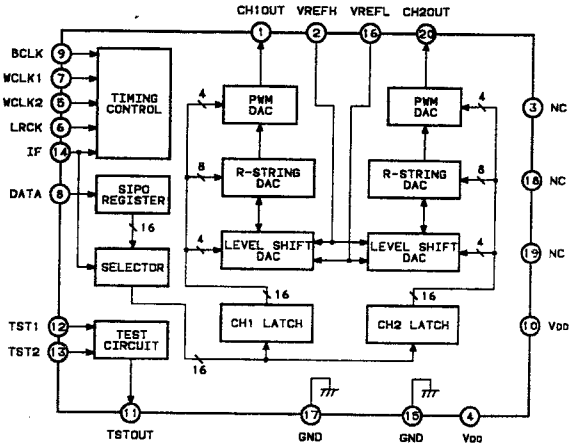


LA3246 BLOCK DIAGRAM



LC7880 BLOCK DIAGRAM



LC3517BS-15 BLOCK DIAGRAM